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Introduction

Surgery, is that branch of Medical Science which teaches the proper exhibition of remedies by instruments & external applications —

A brief sketch of the history of surgery will be the subject of the present lecture —

Surgery is inseparably connected with Anatomy for it is impossible to adjust with accuracy a disorded machine with which we are totally unacquainted; & unless our investigations have extended to the minutia of compound of the animal machine how shall we be able to rem a disorded wheel of that machine? — —

Surgical skill is of the greatest importance to the human race since we cannot avoid the acc- dents to which we are all exposed.

The Ancients were not strangers to to this bran ch of science for the Egyptians & Grecians were both famed for their skill — The former must have acquired considerable knowledge of the science of medicine in order to aid their operations in embo- ming their dead — & the latter were aware to the wisdom from the lips of soldiers of wounds in the army-

Physick, P.S.
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In the time of Plato there seem to have been very important discoverys made in the science of medicine. Pliney it is said died of a wound of the Vena Cava Plato supposed that the heart was the center of the system from whence were sent off in various directions a great number of canalls which by their divisions & ramifications extended to every part of the body & that these canals were furnished with a fluid which was the pabulum of life this was written by him 2000 years before the discovery of the circulation of the blood by Harvey We do not find that Anatomical dissections were employed in any Pathological investigations at a more remote period than the time of Demonites who it is said made the first dissections —

The art of Venesection was invented by Podalirius who performed it on the daughter of a nobleman who had fallen from the top of a building & was taken up apparently lifeless he opened a vein in each arm the blood gushed out & she revived the consequence was the complete restoration of the young lady & the bestowment of her hand to the happy Podalirius

The instrument he used in the operation was the sharp fragment of a shell or stone —

400 Years before the Christian Era Hypocrates flourished & Heraclitus 260 years after him: in his time surgery was greatly improved some very important operations were performed in Egypt among which were trepanning, tapping opening the trachea, the reduction of dislocations, & fractures &c. Lithotomy was also performed with safety in all cases of small calculi which was made to pass through a canula in the urethra, the stone was directed to the mouth of the canula by the introduction of the finger in Ano — A.D. 130 Galen explained the difference between Arteries & Veins, both alike containing blood but the veins containing most air — Professors are entitled to but little credit in modern times for the discoveries which they make — The Arabians had four methods of stopping hemorrhages 1st complete division of the vessels 2nd compressure 3rd astringents & styptics & fourth ligatures — After the art of printing was discovered surgical science made great progress. In 1665 Louis XIV established a society in his dominions which published the same year a very valuable volumn of transactions — Towards the close of the 18th Century Hunter, Cheselden & William Hunter, were conspicuous. but Mr John Hunter exceeded all their researches he maintained his doctrine of animal adhesions through fire & smoke as it were

which is as important as that great one established by the immortal Harvey the circulation of the blood—

The plan of transpiring the blood of a young animal into an old person for the purpose of obtaining longevity as has been done is absurd no good has resulted from it—

It is certain that the mode of healing wounds by contact with a hard body as was the practice in form-er times is worse than the disease, in the first place applying to the bottom as has been called was performed by filling the wound to the bottom with lint or some such substance, or closing it up with suture or otherwise in which case the wound made by dressing was worse than the original cut. the 2nd intention was mundifica-tion 3rd Concoction & 4th incarnation— There cruel remedies were the means of bringing odium & reproach on the profession —

In tracing the history of this science we find the pages of surgical authors filled with absurdity—Witch-crafts are hated of largely: Superstition prevailed through every civilized nation. In England a powder was vend-ed declared to be a specific for all wounds made with instruments the powder was to be applied to the instru-ment with which the wound was made— The method of cure down to the time of Hawkins & Cheselden in,

surgical cases was extremely complex & cruel. Simplicity
is now considered the most important ingredient in the prep-
-arations of surgical applications — Surgeons of former
times bold and ignorant placed their dependence in the pow-
-er of nature to effect a cure, & by these means generally
lost their patients. But in modern practice the Lancet
is used successfully & the cure of political Amputations are
effected with ease. The introduction of fire arms in war
presented a wide field of investigation to the surgeon & was
a source of much disturbance but now gun shot wounds
appear not so formidable but that the experienced surgeon
may easily treat them — Operations on the Carotid & Iliac
arteries have been performed in England & repeated with
success in America —

The subjects which follow are of the last importance
when war is begun no one can tell when it may end
& when you consider the accidents to which the Soldier
is exposed you cannot pursue too Eagerly the path whi-
ch will lead you to the perfect knowledge of the mode
of relieving his distresses. You may all be tried & your
skill be proved as long as the tribunals of your
brother countrymen in the field of battle, pursue then
with unremitting diligence the road to medical knowl-
edge that you may thereby render a lasting & impo

Of Inflamation

Thare is perhaps nothing more necessary to be understood by the surgeon than the principles of inflamation; for as thare is a certain degree of it, which is necessary to restore diseased parts to their healthy state, so thare are likewise other grades which are incapable of performing this restoration, of course therefore, a knowledge of its principles, & also of the appearances which it has in performing the restoration of diseased parts, is absolutely necessary to the surgeon — the term Inflamation, was given to this process from the supposition of an accumulation of fine to the part inflamed; but this idea is altogether incorrect, the term however answers very well to express an idea of that operation. — It may or may not be connected with another disease, an instance of the former we may see in the Scrofhula & Syphilis &c. Improper treatment is frequently the result of ignorance of the symptoms, which violent inflamation have behind it: for instance I knew a case of a sprained ankle, which after inflamation abated was very weak, medical assistance was called, & the Physician prescribed tonics which threw the patient into a hectic fever ——

&c.

An inflamed part ceases to function with difficulty. an instance of this we see in the eye, which when violently inflamed loses the power of vision.

Inflamation is of three kinds Adhesive, Suppurative & Ulcerative. I shall only treat of the latter kinds in this lecture which are the two first. Inflammation is not necessarily a disease, tho' disease always tends to a dissolution of the part; but inflammation is sometimes necessary for its restoration, in the heat they state it is of a pale red colour, accompanied with a preternatural sensation: if seated in the skin it is very often preceded by shivering heat & a dull throbing pain accompany it — Weakness is never a disease, though it is often a predisposing cause to it. — the causes of inflammation are chemical & mechanical. Of the first are heat, cold, acid, substances caustics &c. Of the second are wounds bruises pressure &c. Inflammation does not always follow immediately the application of its cause. 24 Hours sometimes intervening.

A cause that will at one time excite an inflammation of one kind will at another time in the same constitution, excite a different one: different remote causes have been supposed to produce different kinds of inflammation

but-

but I think the cauty is owing to the diffrence of situation of the affected part; for the same remote causes will produce erysipelas in the face & common inflammation in other parts. Inflammation depends greatly on habit. E. G. a person unaccustomed to work will blister his hands very soon, & a person unaccustomed to a high degree of Heat, will bear a much greater diminution of it without giving, than one daily exposed to it. — If Suppuration follows inflammation it is termed critical abscess —

The healthy kinds of inflammation are adhesive & suppurative ——

Adhesive inflammation is an increased action of the vessels causing an extravasation of coagulating lymph. — It begins in the small vessels & for the most part spreads from the point in which it begins. —

Suppurative inflammation is an increased action of the vessels secreting pus —

In adhesive inflammation the matter which forms the union is coagulating lymph, the red globules are likewise thrown out, but are again absorbed. — When inflammation supervenes in a particular part, that part receives a more copious flow of blood through its vessels. That there is an increased action is

proven

proves by the parts being of a pale red colour — If there was a ~~increased~~ decreased action it would be of a purple colour. — The diameter of the vessels are also increased which is proven by Dr Hunters experiments on the ears of a rabit. — The swelling in inflammation (~~except gangrene~~) arises both from the thickening of the coats of the vessels & the exhausation of lymph.

The swelling is greatest at the point where the inflammation commences. The pain is produced by the spasms or convulsive action of the vessels, much in the same manner as it is produced in the cramp or tetanus, or by distention. When inflammation ~~except~~ gangrene it is of a purple colour. The heat of an inflamed part is considerably increased; but never rises higher than the source of circulation; the lymph in adhesive inflammation becomes in time vascular, & may be injected. Dr Hunter proved that coagulating lymph was thrown out by observing, that the matter found on the surface of inflamed cavities, corresponded in every particular with the lymph of the blood when divested of its serum & globules. The coagulable lymph in changes in shaping through the vessels for if it be thrown out on the internal surface of a vein it refuses to mix with the coagulating mass — The effects of adhesive

inflam-

inflammation on the constitution, vary according to the degree of violence, & the part affected thus it is attended with little inconvenience when seated in the skin; but in the theca of the tendons, or periosteum it occasions severe pain, & symptomatic fever; if the inflamation be great, the pulse is full and hard & quick, & the blood is sizy.

This inflammation often terminates spontaneously in which case it is termed spontaneous resolution or adhesive — A man 36 years of age received a bruise on the leg, by the fall of a bar of iron upon it, six days before inflammation came on I was called to see him, his body was all in a tremor his extremities were cold & clammy his pulse small & quick, his strength much diminished, he was cured by a dose of laudanum, & the application of it to the part affected —

I have seen death induced by the inflammation of a lacerated wound of a joint, tumors frequently occur in the throat, called schirrous tumors or tonsils, & in the breasts of women they are produced by the effects of simple inflammation, & an ocasioned by the extravasation of lymph & not being absorbed when the inflammatory action ceased, they also occur in glandular parts & somewhat is called a schirrous tumor. —

by this it appears there is no canarous tendency in the blood — Inflamation terminates also

by

by the secretion of serum. If there be a secretion of any fluid inflamed, the inflamation does not run so high. Thus blisters which run well are much earlier cured than those which do not. It it is probable that inflammation of the brain terminates in what is called Hydrocephalus Internus, and that of the breast in hydrothorax — Local inflammations frequently are removed by fever, —

Hemorhage sometimes terminates inflammation. A remarkable instance of the inflammation of the eye, which resisted bloodletting & other remedies, was cured by the accidental breaking of an artery of the eyelid which bled considerably — I have seen an incurable case of peritonia in ano from its not bleeding in its inflammatory stage —

If inflamation be not stopped by some of these means it proceeds to suppuration. When inflamation happens from accident & has not proceeded too far, we should generally attempt resolution. But there are cases where it should not be attempted, as in very warm weather, but we induce tetanus; a generous diet and cordial drink should rather be recommended — if it be occasioned by a constitutional disease, as fever; or if it is owing to the removal of any worn disease, we should suffer it to proceed to suppuration. When it occurs in any important part it should always be attempted to be moderated. some inflamation is necessary for the

restoration of the parts —

Treatment. To effect a cure the remote cause should in the first place be removed. 2nd Reduce the inflammatory action that the parts may take on a natural one. This is effected by two kinds of remedies, Constitutional & local — The Constitutional ones are, low diet, bleeding, purging, Neutral salts, antimonials, diluents, Tamarind-water &c. low diet tends to empty the blood vessels. — Bloodletting is the most powerful remedy in inflammation, since inflamed vessels are under the necessity of contracting, to adapt themselves to the column of blood. & as contraction is a very different action from inflammation, it allows the parts to take on a natural action, by diverting them from the inflammatory one — Venesection acts in two ways, 1st it removes the stimulus of distention & 2ndly it lessens the column of blood itself. The 3rd remedy is purging, this also acts by lessening the action of the vessels, except when produce nausea & then they act sympathetically though we were sometimes obliged to decline it on account of the inconvenience attending it. Nitre, sal Ammoniac, Glauber salts have been advised. & antimonial have sometimes been joined with them. Mercury sometimes acts powerfully, in the cure of inflammation. — Rest is highly serviceable & the whole body should be kept quite still. & the room of a moderate temper

ature

nature. The local remedies are 1st. bleeding by scarifications, leeches & cups. If a fever be caused by inflammation, general bleeding should be premised. 2nd cold this should only be used when the heat of the part is very considerable & should never be carried so far as to become disagreable to the patient, else it may prove injurious by acting as a stimulus. 3d. vinegar, sal. Ammoniac, preparations of lead with or without laudanum & laudanum alone. 4th Poultices, these are either simple or medical; simple as bread & milk, the flax-seed poultice &c. The medicated are the simple poultices mixed with the medicines above mentioned 5th Blisters these are of very great use applied directly over or in the vicinity of the inflamed parts especially in punctured wounds, they should be used when we are fearful of too great evacuations. they produce resolution by the evacuation of serums. blisters may be of use when we are fearful of Tetanus.

Of the good effects of Adhesive inflammation.

They are instanced 1st. in the healing of wounds 2nd. in abscesses: the cells of the contiguous cellular membrane are united by it. which prevents the pus escaping from the abscess & so stops the further progress of inflamation. 3rd. Cists are formed for the lodgement of extraneous bodies as. balls. Shot glass &c. When I attempted to extract some shot lodged just under the skin. I was surprized at the tenacity with which they were held in those cists. 4th in abscesses of the liver or any other viscus

the

the pus in its passage to the surface of the body is prevented from being effused into the cavity of the abdomen by the adhesion of the opposite part of the viscus to the parietes of the abdomen. —

If inflamation be not stopped by some of these means it proceeds to suppuration. here the inflamation acts by exciting pus. & the suppuration which takes place is a 3rd remedy or mode of cure. — The contact of air to the internal surface has been supposed to produce inflamation. I once heard a professor say, that he thought that the action of the air occasioned inflamation of the chest. in a case where the pleura had been punctured by a red-hot iron; notwithstanding the violence of the act, he imputed the inflamation to the action of the air. I once made an incision through the pleura of a cat. & shaped a tube into one side of the chest & filled it with air. & then withdrawn the tube & closed up the wound, in this situation it remained 3 days without any remarkable alteration the cat was then suffocated & upon examination no possible difference could be discovered between the two sides. — I mention this to show that the effects of air are not so noxious as are often supposed. & to prevent Surgeons hurrying too much in closing up a wound with a view of keeping the air from its internal surface. — When adherence inflammation will not admit of reduction it —

it goes into the suppurative stage this is characterized by an increase of pain often attended with a shooting or throbing sensation, the swelling enlarges the parts become softer & at length a fluctuation is felt. there is also at the same time an alteration in the colour of the skin from a deeper to a paler red. also rather a yellowish appearance in the most prominent part of the tumor. It is now what may be termed an abscess, or circumscribed tumor containing pus.

Abscesses are often attended with rigours which are succeeded by fever & clammy sweats, which symptoms are removed by evacuating the pus. If the pain be very great it may be relieved by opium. this will be best effected by combining it with small doses of emetics. A poultice of bread & milk is usually applied to the tumor, in which a prominent part is observable & here an opening is in general made naturally, by the absorption of the parts beneath the skin, although an opening is sometimes made by the skin losing its tenacity & sloughing away; when this takes place it generally makes a pretty large opening: If the time of the natural opening be protracted too long, it becomes necessary to make an artificial one; several other circumstances require this opening to be made early. If the abscess be situated in the thorax-

rax, abdoman or any of the joints, or if it be attended with great pain as in the paronychia it may be done, The pain in paronychia may be almost immediately removed by opium, In suppuration attended with hectic fever, the constitution sympathizes with the local affection which the power of the system is unable to overcome as when the fever is brought on by ulcer or affection of the tendons or ligaments or of any of the vital parts. The symptoms of hectic are great lassitude, weakness, loss of appetite, cold night sweats, aptness to sweat on very little exertion, the pulse small, quick & frequent with high coulour, it frequently terminates in diarhoea.—

The process of suppuration sometimes suddenly stops, & the matter already formed is absorbed, this is a happy termination & of course a desirable thing to find medicines which will produce this effect, accordingly many medicines have been employed for this purpose, Emetics & nauseating doses have been known to produce it— The matter formed in buboes has been known to be absorbed by vomiting produced at sea, I have observed a bleading blistering & purging to have been of service— Hectic fever instead of being induced by suppuration as formerly supposed is sometimes

cured

cured by its promotion, an instance of this kind occurred in an amputation of a leg: when the patient was affected with hectic from a diseased joint which ceased after the suppuration when the surface and quantity of matter was increased.

And Hectic has been cured by issues which increase the quantity of pus, convincing proofs that the Hectic is not in consequence of the absorption of pus. If suppuration proceeds to fluctuation, so that it may be distinctly felt, the opening should be assisted by making an incision into the abscess. It is very customary to apply plasters of different kinds to assist in breaking tumors containing pus, such as resin. Saccharine substances &c. Scarce any of these do good, tho' that applied next preceding the eruption generally gains the credit of accelerating the discharge, but I believe act more by softening the part. — Abscesses on the Cranium should never be left to open of themselves, such as impede respiration should be immediately opened. The tonsils should be opened when they are so enlarged by suppuration as to impede respiration.

Matter does not always avoid towards the skin (idest.) in tumors containing pus absorption does not always take place between it & the external surface of the body, but sometimes makes its way more internally hence the necessity for opening abscesses where they form

pour over joints. or any cavity. — I knew a
patient affected with a periodical pain in the
head, which afterwards was found to be owing to an abscess
in the calf of the leg. upon opening which the pain ceased.

I have twice known all the Symptoms of a nervous
fever produced by a small abscess over the abdominal
ring; in the first case the patient dies, owing to
an ignorance of the cause of the disease, in the second
the abscess was opened & the patient recovered. I have
known a similar instance of one situated in the ax-
illa. Abscesses in the face should be opened soon
to prevent the scar that would ensue by leaving it
to open spontaneously. as it would absorb much
more of the parts. — There are two ways of
opening abscesses. by an incision, & producing an
eschar by means of caustics. — The first should
be preferred, unless in case where the timidity of
the patient prevents it. in which case a thin layer
of lapis infernalis may be applied 8 or 10 minutes;
the part it touches will soon slough off & give vent
for the matter or pus. after the pus is discharged
it is to be treated in the same manner as an
ulcer. — Pus is a light, straw coloured fluid of the
consistence of cream. containing a number of glob-
ules it does not coagulate if exposed to heat
but evaporates to dryness, it does not readily mix
with is specifically heavier than water, & easily
miscible with it. it is not corrosive. is said to
be

be of a sweetish taste. It is distinguished from the other fluids of the body by its containing peculiar globules, that are suspended in a fluid (~~suspended in water too~~) coagulable only by sal Ammoniac which is not the case with any other animal fluid. Mr Hunter observed that it was a secretion of the vessels taking on the nature of glands & that the globules are not formed, till after it is thrown out of the vessels.

When practicable suppuration should be obviated by reduction. — —

Ulcerative Inflammation takes place mostly after suppuration: & suppuration take place after the extraction of dead ulceration. In ulcerative inflammation a part is always destroyed, which is removed by absorption.

It commences mostly after the suppurative stage, but has been known to precede it, as in cases of chancre. & some particular cases of irritation, or when sudden death of a part has taken place. Pus can be produced this stage without suppuration. — That part of the body ulcerates soonest which is nearest the surface. The absorption of the parts in ulceration is always attended with pain & inflamation which is called soreness. But this is not a necessary symptom of ulceration, for we find that scrophulous ulcers are not painful when they proceed slowly, but when rapid they are attended with great pain. —

J

I shall now say a few words of abscesses. & first of
of mamary abscesses. Remarkable instances of ulce-
ation attended with inflammation, occurs in the
mamary abscesses of women. They may either be seated
in the glandular or cellular part; It seldom
occupies the whole of the breast. & if a portion of the
glandular part be diseased, the secretion of milk is
commonly diminished, but if the whole is affected,
the secretion of it is entirely suppressed. they are
mostly preceded by a chilly fit accompanied with
pain of the affected part. & there is sometimes
more than one tumor felt. The time when this
disease most prevails is within three or four
months after delivery. tho' women are subject to
them while they suckle. — It is attended
with a shooting pain that extends to the axilla.

We seldom or never see these cases till they have
arrived to a considerable degree of soreness, owing to
the woman conceiving herself quite competent to
the cure; tho' they always fail in their attempts.

Suppuration is mostly the result of inflamm-
ation of the breast, yet I have seen it terminate
in Edema. & the swelling to be so great as
to protrude the parts round the nipple so
as to hide it. The swelling in this case did
not come on for two days. & I was not called
in for six weeks. When the adhesive inflamma-
tion —

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tion takes place, the coagulating lymph is sometimes thrown out, without being absorbed again after the inflammation has subsided. This forms an indurated gland or schirrus. I have seen them of various size. they are always cancerous because they have yielded to the antiphlogistic regimen.

These affection are frequently owing to mechanical causes, as tight dress &c. & to overdistending the vessels by long distention with milk, they are sometimes produced by the person taking cold. —

In those cases when glands are indurated they seldom return to their former size; sometimes they are very much reduced in size & more acute pain. —

Treatment. If called in the forming stage bleed according to the strength of the patient exhibit a mercurial purge; & put the patient upon a strict vegetable diet; the breast may be annointed with warm oil; if it be convenient for the patient to be compressed it should be done. If not support the breast by pinning a handkerchief under it & round the neck. If inflammation continue venesection may be repeated; & leeches applied to the part will be found of great utility: Bread and milk poultices with lead-water are highly serviceable after evacuations have been premised. If these do not give relief & the inflammation continue a blister should be applied, a great variety of

of plaisters have been used, & are often recommended, but I believe they are all of doubtful tendency

The blister is not so painful as might be expected women who had not enjoyed rest for many nights before, have been known to sleep soundly while it was operating, but be sure to keep up the vigilation per annum. The application of sal ammoniac & vinegar is frequently advised it is now out of use. ——

Suppuration seldom takes place if properly treated from the commencement of the disease, but sometimes from delay in calling in a physician, or from his want of judgment it does occur.

If it become necessary to open the abscess it is sometimes advised to do it freely, by making a large slit, but I have succeeded in making a puncture into the abscess & introducing a bougie to keep it open. The bougie must be withdrawn occasionally to void the within collected fluid or pus. In the case of Edema I applied sal ammoniac, mercurial Ointments &c to the parts & depleted generally, by bleeding, purging, &c. but without any effect, the application of a blister removed the complaint, I removed an indurated gland, (attended with bloc fever which was afterwards cured by bleeding, & the antiphlogistic regimen,) by blistering & afterwards dressing with mercurial ointments; when the solution was

was as large as the fist. Mercurial ointment is good in resolving tumors. Weakness of the joints, (especially that of the hip,) without any apparent cause are frequently a species of inflammation which may be cured by purges, if timely taken. Swellings are occasioned by a secretion or throwing off of coagulable lymph into the cells of the cellular membrane. Vessels which are inflamed carry a coagulable lymph, which adheres to their internal coat & becomes vascular.

Paronychia, is a violent inflammation occurring mostly at the ends of the fingers which frequently ends in suppuration, it is attended with throbbing, or excruciating pain according to the seat of the disease. It may be divided into four kinds 1st. When seated in the cuticula, 2d. when in the adipose membrane under the skin, here the pain is much greater, matter is frequently effused under the nail & the whole finger becomes swelled & painful, 3d. in the theca of the tendons & 4th in the periosteum. In the last case the pain is very great tho without swelling at first. When it occurs in the adipose membrane there is most danger of mortification. The matter formed in the two last species of paronychia has sometimes passed along the course of the tendons under the ligaments of the wrist & formed a tumor at the lower part of the fore-arm. the

bone

bone often becomes carious, & sometimes the tendon slough away, I have seen mortification from this cause It is a difficult matter to point out the causes of whitlow. I have once seen it produced by the bite of a squirrel.

Treatment, but little attention is necessary to be paid to the first kind. it may be opened & dressed with Unguentum Citrinum? or simple cerate containing Sac. Saturni. When it is situated deeper than the skin make a small puncture down to it. & the blood should be suffered to run until it ceases spontaneously. & if any part of the bone be decayed it ought to be taken away as soon as possible; the dressings may be either dry lint or a poultice; boiling water has likewise been advised in paronychia, I believe when it is of any use it acts merely as a relaxant. Nothing else however is necessary except opening the part. If matter have travelled up the wrist it should be let out at the most protruding part. Sometimes the orifice if small grows up with fungus & prevents its healing; for removing this excrescence escharotics will be found tedious & often in vain; it should be done by enlarging the incision.

The **Psoas Abscess** is seated in the cellular membrane under the Psoas muscles. when matter is deposited in a cell of the adipose membrane. Any of the remote causes of inflammation may produce this disease. In its progress to the surface of the body. it generally follows down along the course of

× I have seen a case where the abscess pointed in the vagina, & recovered — J. F.
the haemorrhoidal
Another also when the post-appearance was in the groin. afterwards it discharged largely from the vagina. This appeared to have been produced by a difficult labour. terminated success.
J. F.

of the bones, it causes pain at first in the lumber
region, but sometimes goes off without causing pain
for three months, causing any pain; the thigh on the
side affected is weak, the patient cannot well
stand, he generally bends the body to relax the mus-
cles on the side affected, he cannot easily rotate
the thigh & is affected with rigors. It sometimes
happens that months elapse before any one mark
of it can be seen. Its general situation is anteri-
orly, but it is sometimes found in the loins, on
the upper or lower part side of the thigh. & I have seen
it on the buttocks x — The integuments of the abscess
are not discoloured, the tumor is lesse when
standing upright, when lying down soft & flac-
cid. If I press on the abdomen, it will be flatten-
ed & more protruded on the thigh, & vice versa,
Laughing & coughing render it more tense. The
fluctuation may easily be felt. The abscess
never open forward into the cavity of the abdomen
, but have sometimes destroyed the sides of the con-
tiguous vessels & thereby produced fatal Hemorhagies
If they continue a long time they may occasion
a caries of the vertebra — When it protrudes at the
upper part of the thigh it appears like hernia,
& it has sometimes been compounded with feste-
la in Ano —

Tretment

If we are called to see the patient early in
the disease we must cause the patient to lay on
his back, keep him at rest & avoid all ammal
food

food; Bleeding purging scarifications on the back & loins are useful. A small blister should be applied to the upper part of the back & loins & issues also.—When the tumor is formed externally, it has been disputed whether the abscess should be opened or not. & some are afraid to make an opening into the cavity, but when it is long in opening it puts the patients life in danger if it be left to open itself. Dr Hunter thinks that all cavities will inflame if opened, unless they unite by the first intention & that the inflamation would attack every side of the cavity which is the cause of all the bad symptoms that follow. Dr Abernethy taking the idea from Dr Hunter (no doubt) has proposed to open it so that the sides of the wound may unite by the first intention. he has proposed to perform the operation with a lancet, the puncture to be made in a longitudinal direction. of the fibers, first to make an incision through the skin & then to push the lancet obliquely (viz) leaning to one side, through into the abscess, by which means we make a valvular opening— We should see no probe nor any thing to ascertain the depth of the sinus because the would imitate the heart, when the matter is discharged bring the edges together with adhesive plaister; & after the matter is discharged (bring the edges together with) a few times in this way. it may opened with

the

the lancet freely without danger as the sides of the cavity will be brought together and sadered as to become inflamed — This is the best method of healing the abscess: I have tried this method myself, although I have never been able to succeed in effecting a cure because all the cases because all the cases I have seen have been attended with a caries of the vertebræ. However the puncture does not always unite by the first intention when this is the case, the inflammation which was spoken of before, & which is the fatal cause comes on. (a case related) —. Besides the inflammation before spoken of, there are some others, which we will now consider & first

Erysipelas. This is an inflammation of the cutis vera. It sometimes begins on the forearm & spreads over the whole body, is sometimes preceded by shiverings, which is succeeded by a hot fit. the skin is sometimes of a bright yellow, or dark colour. if you rub it with your fingers the colour disappears but on moving the hand the colour returns: the hair is of a burning kind: the inflammation this often much affected, frequently spreading in one part whilst it subsides in another. if situate in the face it is attended with closing. Erysipelatous inflammation differs from the adhesive. in this that in the latter coagulating lymph

lymph is thrown out, whereas in the former
serum is exchanged in the cells which form
blisters on the surface, sometimes the serum
escapes into the cellular membrane forming
a tumor which feels like gangrene. Suppuration
sometimes supervenes running from cell to
cell, in the adipose membrane causing death.
When mortification takes place in the cellular mem-
brane it is exchanged in flakes like wet tow.
It is very offensive. This is mostly the case when it
is situated about the anus. Erysipelas generally
terminates in about 10 or 12 days.

Causes. The remote causes are so similar to those
that excite common inflammation, that I will
not enumerate them. It sometimes comes on
spontaneously or without any apparent
cause.

Treatment

In England bark is the cure. The treatment
here is much the same as for common inf-
lammation. It may generally be removed by
attending to the antiphlogistic regimen, before
suppuration takes place. but when suppu-
ration supervenes it must be opened early
to prevent its escape into the cellular mem-
brane. Poultices before suppuration takes place
is improper Rye flour sprinkled on the
parts is very useful. It affords ease
the application of a blister in such a way

Heat

that it shall be healthy on the surface, & healthy on the healthy parts is of great moment When the part begins to heal an excoriation of the cuticle like bran is a favourable symptom

Œdema exists in the skin though it may be seated in inflammation water is sometimes evacuated; it is probably the same with adhesive inflammation, originally taking place in parts disposed to dropsy. It is attended with burning pain. — — —

Treatment. The usual application is brandy & bread and milk poultice mixed with it or Sac. Saturni, — which is more effectual than any thing else

Burns — The morbid effects produced by the application of heat differ according to the intensity of the application, & the time of its continuance. The effects are 1st When the degree of heat is low a redness of the part is only produced 2nd Vesication causing a separation of the cuticle attended with an effusion of serum, 3rd the death of the part forming an eschar. The heat of a burning coal, or of any of the molten metals will produce this effect. Sometimes the bones are discharged from these causes, & it frequently terminates in death. When the life of a part is destroyed the patient does not feel a great pain, after the first effects are over for 3 or four days, when the inflammatory process of

Sloughs

Sloughing ~~of~~ takes place for the restoration
of the affected part. I saw a little boy who undertook
to walk the edge of a cauldron, which was full of
very hot water, in a soap manufactory. his foot
slipped & he plunged into the midst of it, he
was wet nearly two thirds over, & his clothes keep-
ing the heat to the part for convenable time
he was very much burned. When I first saw him
his pulse was scarcely perceptible, his extremities
cold and a heavy drowsiness prevailed, he was
very restless & kept constantly changing his
position; he did not speak except when asked
a question & then he answered very rationally.
& when interrogated with respect to his feelings
he constantly answered that he felt no pain.
he died in about Six hours. When these symp-
toms are produced by fire, the patient seldom if
ever recovers. Burns affect da people the most,
though they have fatal at times to all ages, —
A deep burn if it be of small extent or spread
but little, is but a small injury, but if it be
of great extent, though very superficial it is
extremely dangerous, when burns happen on
the head, they sometimes occasion inflamma-
tion of the dura-mata. Burns occasioned by any
of the molten metals appear of no serious conseque-
nce at the first, but frequently after some time
the skin & vessels slough off & leave the bones
bear, hectic fever ensues & the patient dies.

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Burns

Burns occuring over large joints frequently occasion alarming circumstances. Ulcers often comes on & amputation is absolutely necessary for the recovery of the patient.

I consider inflammation resulting from burns differing from all others. 1st the pain is of a different kind differing from any other being of a burning kind 2dly in not being capable of resolution. & causing ulceration of the parts beneath. which know ulcer is with great difficulty supported 3dly the cicatrices formed from ulceration, resulting from burns have a disposition to contract much more than any others, not the result of burns, causing thereby a much greater deformity of the part affected 4th they are cured by totally different remedies, as volatile alkali: Spirits of turpentine, &c——

Treatment. The remedies employed in cases of burns are very numerous, they are either general or local. Most authors recommend depleting remedies in burns indiscriminately, but they should not be used unless fever & inflamation supervene. if the burn be extensive & great weakness attend, the patient may be supported by bark wine & even brandy & water, We should have any nourishing diet. he could accept, if the extremities be cold, apply sinapisms, if from their invigorating plan of treatment inflammation should supervene. bloodletting and a more sparing diet would be necessary. The local remedies

dies generally admired are cold water, soap suds.
& Mr Earle in a small treatise recommends ice, above all
other remedies. vinegar and water, is a good application:
lime water & oil form a crust like a cuticle & the
common people use potatoe scraped. Of late very stimu-
lating applications have been used, as volatile salts
spirits of turpentine &c. latterly Mr Hunter has used
Spirit of turpentine, combined with laudicon. & I
have used it with very good effect in many cases
but it should not extend to the sound parts, as
it would excite inflammation there as well as
pain & swelling of the part. These remedies counter-
act the effects of the burn, while the cold water &c
only act as palliatives relieving the pain, & soothe-
ing the part for a while. We are often not called to
cases of burns for several days after they have
happened, & a number of applications have been
tried, I have applied the turpentine & laudicon
2 or 3 days after the accident when not called be-
fore. In one case of the burn of a child, the tur
pentine & laudicon was applied, but owing to
the superstition of the parents, together with the
clamour of old women, it was omitted 3 or 4 days
without my knowledge. The child became worse
& a fungus arose over the surface of the burn.
I was sent for again, & the part was sprinkled
with burnt allum, the turpentine & laudicon
were again applied, which soon cured the pati-
ent

-ient. In the case of a patient who was burnt with gunpowder, this medicine was used, the pain entirely left him in about four hours after the application of the ointment, however he presently complained of a pain in the little finger, which upon examination appeared not to have any of the ointment upon it & upon its application upon this part the pain quietly ceased, the inflammation subsided, & he was cured. Spirits of turpentine is one of the best applications in these cases ——

Inflamed parts, when in contact, are very apt to grow together, so that we should be extremely careful to keep the dressings between the inflamed surfaces which lie in contact with each other, whilst they are suppurating & granulating. Also the fingers or other members when they are much burnt should be kept extended with a splint in order to prevent the contraction of the limb otherwise the parts will adhere by the union of the granulations. I knew a case where the fingers of one hand in consequence of a severe burn adhered to each other & the ends of the fingers grew fast to the palms of the hands which evinces the necessity of keeping the dressings between such inflamed surfaces & keeping the parts extended by means of splints. I knew a scald upon the parts of generation of a young man which for want of proper care to keep the parts separate whilst healing all united together, the penis adhered to the scrotum & the scrotum to the thighs. The young man did not like such a conjured map. I applied to D^r Hunter for relief, who undertook

undertook his case & was fortunate enough, to succeed, by very careful dissection in liberating about a couple of inches, to the no small satisfaction of the patient. burnt parts sometimes form a ligature round the limb stopping the circulation of the blood, & thereby producing mortification. whenever this circumstance takes place the band should be cut open.

Mortification is the certain distruction of a part by death. it is of two kinds 1st Inflammative, or that preceded by inflammation 2nd debilitative, or that proceeding from langour, of the first kind, the causes are violent contusions. & the application of violent degrees of heat, or cold &c. of the 2nd the destruction of the circulation of the part, either by pressure or by tying the principal artery. they both operate the same way, by cutting off the necessary supply of blood. When a part loses its life by mortification, it first becomes purple, then livid, & at last black. The cuticle soon separates from the parts & continues till the dead separate. In case of violent inflammation the evacuations should be promoted. & opium given to relieve the pain. A small degree of inflammation is salutary necessary. — Intense cold if not severe enough to kill, produces first a paleness of the exposed part, which is succeeded by redness & is attended with a burning sensation & swelling of the parts affected. If the cold is continued it loses its sensibility &

& at length dies. When it is produced by cold; by snow or fresh spring water should be applied to the part affected after which the warmth of the part should be gradually increased to a comfortable state. — Mortification often comes on without any apparent cause. of mortification preceded by inflammation there are two kinds. the first is when the inflammatory state or action is too great for the powers of the part to support. in the second there is something peculiar in the nature of the inflamation so that the inflammatory action does not seem to produce its effects of destroying the part by its degree of violence. Wine injected by a bungling operator into the cellular membrane. (instead of the tunica vaginalis) of the scrotum for hydrocele. has produced inflammation & mortification. of the whole cellular substance. & bottom of the scrotum which by being destroyed. sloughed off. & the whole cellular membrane came away. with an intolerable fetor. The escape of Urine into the cellular membrane has produced the same effect. ——— Mortification often takes place in the toes. especially of old people it commences with pain & slight inflammation of a purple colour. vesications sometimes takes place around its edges. but not always. the progress is for the most part slow, but in some it is rapid & very painful the upper part of the foot swells & the cuticle becomes

detached.

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detached. I have known it to arise from the prick of a knife in cutting corns or cons. in the use opium is the best remedy, all stimulating medicines, as spirits of turpentine, & esential oils be should be avoided. Never make scarifications nor apply stimulants. to assist in throwing off the sloughs, for when a mortification ceases, the parts will slough off without any assistance.

Blisters should never be applied to this kind of mortification, for whatever irritates or stimulates the parts increases the disease. It has been advised to amputate but this should never be done while mortification is progressing, lest it should attack the stump & the patient undergo much unnecessary pain. in a case of a mortification of the foot which came on with a very offensive smell, I was induced to amputate it at the particular request of the patient. It was performed a little above the ankle the arteries were completely syringed. so much so that I was obliged upon tying them up. to mash them together with my thumb & finger with a view to prevent hemorrhage, a circumstance which often occurs in such cases — pressure often occasions mortifications in parts contiguous to the os sacrum. in persons who are long confined on their backs, from broken bones, or other causes it is most commonally produced by inflammation. I have seen mortification produced in the arm by the pressure of the bed-

clothes

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clothes. The symptoms of mortification are a 73
burning sensation, a dark red colour air appearing
upon prepure, & returning slowly; a tumefaction
takes place which readily receives the impression of
the finger; small blisters containing a thin acid
serum arise round the edges, & as the disease ad-
vances, the red globules are thrown out. Treatment
The remedies for mortification are general &
local. The general remedies are bloodletting if
inflammation be present, but if it proceed from
languor or debility of the parts, then stimulating
applications, as essential oils, Cordials, scarifications,
with opium, Barks, Nourishing diet &c. to be
employed. If the patient be accustomed to the
use of wine, it may be continued to a certain
degree in every instance. — The local remedies
are blisters to the part affected. The charcoal
poultice is highly invicable to prevent the
smell of the dead part. When mortification
ensues from erysipelas in the cutis vera &
has made its way into the cellular membra-
ane. it should be dressed freely & treated with bread
& milk poultice. In mortification of the legs
prepure should be avoided but the legs may
be supported by pillows placed under it. If
have long been in the habit of using nitric acid, di
-luted with an equal quantity of water, it corrects
the

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the pulse, by stopping the pulsating motion. It
may also stimulate the absorbents to a quick-
er action & cause them to separate the dead
parts more readily. It should however, not be ap-
plied too near the living parts or it will cauterize.
them. — If the weather be very warm maggots are
apt to form in the dead parts, washing it with
diluted acid will remove them. ———

+ The second stage of that peculiar kind of inflam-
mation that produces carbuncle. They are circum-
scribed tumors, broad & hard; they begin in the skin
like pimples, are of a dusky red colour with pale edges
attended with burning pain. A kind of a suppuration
takes place in the cellular membrane, but good
healthy pus is never formed. They occur in the back
& sides & most frequently in people who have lived
well, they sometimes, tho rarely occur on the head.
They are dangerous if large & numerous. Much however
depends on the constitution. A case of Dr Watsons
will serve to shew the peculiarity of this kind of
inflammation. he was called to see a man between
50 & 60 years of age affected with one of these carbuncles
on his leg. a circle of inflammation surrounded
the tumor. he first saw him about 3 days after
the commencement of the disease. after trying a
number of remedies Dr. Munger was consulted
who said he was acquainted with them in
France. & had cured several of them by scari-

fications

pitations. accordingly it was scarified transversely about a quarter of an inch apart all over the surface. & then a circular incision all round it this effectually cured it. — It operated by changing the mode of action to the adhesive inflammation. — — —

Some years ago I was led from the uncertainty of the remedies for gangrene, to seek for some remedy more certain, & effectual in its operation. & from the good effects of blisters in many cases I was induced to try them in mortification, & they succeeded beyond my most sanguine expectations.

The good effects of blisters may be seen in the case of Capt. R — A — (vide in Coxe's Medical Museum.) who, under mistake, made use of prussic acid in a common after ocurrence of life; In consequence a violent inflammation, ensued in the regio. ani & the scrotum. The antiphlogistic regimen & baths was tried but without any benefit, & when in the most dangerous state, after having resorted bark & other antiseptic remedies, it was cured by the application of blisters to the part affected. —

The pain in mortification is caused by inflammation & spasm of the vessels. A patient of mine was affected with violent pain in the foot, a small reddish spot was seen on the top of it appearing, at first like ecchymosis, which afterwards disappeared & then came again a little

above

above the ankle, the patient now complained of great pain when the foot was raised up, but which was somewhat abated by letting it down, owing to the diseased action of the vessels because the blood filling them overcame the spasm that was the cause of the pain. & when the foot was raised, the vessels were emptied of the distending blood, & then the convulsive action took place. A charcoal poultice was applied over the foot. His bowels were diseased owing to his having taken a large quantity of laudanum, which was obviated by his having taken a purgative; the bark was given to the extent of half a pound in twenty four hours without any good effect application of bark & brandy were made over the stomach & 5ss of volatile alkali given every two hours. The bark was now omitted as it was found to be of no benefit. some senna & manna were given to obviate the costiveness, but the mortification still increased *. A blister plaster was applied, which stopped the mortification & the livid colour began to and under the blister. The fermenting Charcoal poultice was omitted & another blister, applied just below the joint on the limb which was of a dark colour & cold. The dead part was washed with nitric acid diluted with an equal part of water. The mortified part after this gradually sloughed off & the patient now recovers. — — — — —

When

When mortification is caused by inflammation a blister should be applied. Blisters have lately been found as effectual in cases of carbuncle as any other kind of inflammation, especially in relieving that distressing burning sensation. I lately cured one in the back of a lady as large as a common plate which she compared to a warming-pan full of coals. The sensation was very distressing but as soon as the blister was applied the mortification ceased, the dead part sloughed in a few days & the sore healed kindly. ——

Dr. Hunters theory of mortification, I believe is now generally received, that is an increased action of the vessels beyond what the power of the part can bear, but I am rather inclined to think, that in every species of mortification there is something peculiar, leading to the death of the part, something more than the violence of the inflammatory action, for if it depended on the violence of the action alone, the application of a blister, which is highly stimulating, ought to produce the death of the part more quickly by producing a still greater increase of action, but on the contrary they often ~~prevent~~ prevent a cure. Effective by altering the disposition, by changing the mode of action from a diseased to a healthy one, or kind ——

Wounds. There may be opined a separation of external parts by mechanicle action. they differ according to the situation of the part injured, & the instrument by which the injury is occasioned —

There are two kinds of wounds incised & contused. An incised wound is made by a clean, sharp cutting instrument. A contused wound is always accompanied by a bruising of the soft parts, and are divided into 3 kinds lacerated, punctured, & gun-shot or penetrating wounds. they are attended with a greater or less effusion of blood, but in lacerated wounds, large vessels are often divided without any considerable Hemorrhagy. Incised wounds bleed much more than contused ones, because in the first case there is nothing to prevent a flow of blood, but in the latter the parts contused are killed, & the dead matter at the mouths of the arteries, (caused by the contusion) act as a stimulus to the coagulation of the blood —

(A case related from Cheselden.) I once saw a boy who had his arm ground off in a mill between the elbow & shoulder, in this case scarcely any hemorrhagy occurred owing to the convulsed ends of the arteries causing the blood to coagulate in their extremities and forming plugs that stopped the hemorrhagy. an incision by a knife

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knife would have caused a much greater flow of blood. there are three causes which prevent hemorhagy in contused wounds. 1st a diminished power of circulation in the part. 2d the coagulation forming plugs. 3d pressure caused by the effusion of blood into the cellular membrane, which pressing on the sides of the vessels lessens their diameter. Bruised parts cannot bleed much. the hemorhage is stopped by the bruise causing the coagulation of the blood which first takes place round the vessels. contused wounds by the violence of the injure cause the death of the ends of the vessels.

In incised wounds the first thing that is necessary to be attended to is the flow of blood this is sometimes in great quantities; but not unfrequently a short time after the accident it spontaneously ceases. a coagulation is formed as it were a plugging up of the ends of the vessels. if this be not the case it may sometimes be stopped by pressure with the ends of the fingers. but should this fail. a tourniquet must be applied above the elbow. if the wound be on the arm. & above the knee if on the leg there being but one bone in these places. the pressure will be more effectual in preventing hemorhagy. if it be applied over the thigh a compress. or pad must first be ap-

applied over the artery. The hemorhage being stopped the part must be washed clean with warm water. A search made for the bleeding vessels. which being found must be drawn out & secured by ligature. It is necessary to tie both ends of the bleeding vessels if it be large, otherwise the hemorhagy will be carried on by the anastomosing branches from the lower end of the vessel divided. When an artery is divided in the body so that it cannot be got at easily. It is necessary to pass the tenaculum along with the finger, (having previously made a loose knot over the finger & tenaculum,) till you come to the artery; as soon as you can get hold of the bleeding vessel, slip the noose over, & secure it. In case when the tenaculum cannot be used as when the vessels have retracted so we cannot see their orifices, recourse must be had to the needle passing it round a portion of flesh. & tying it up altogether. If the orifice of the wound be too small enlarge it with the scalpel, but this does not often happen.

If any injury is received on the arm very high up. the tourniquet cannot be applied. here compression with the fingers may be made on the sub-clavian artery, just where it passes over the first rib. or if the injury be on the upper part of the femoral artery. pressure may be made on the groin. Sometimes pressure may be made over the wound long enough. for the formation

6

of a sling, or coagulums in the extremity of the 69
divided vessel. & so stop the bleeding. It sometimes
happens that vessels are divided in such a situa-
tion, as not to admit of this treatment, as the extrac-
tion of tumors from the mouth or nose, which are
supplyed with carotid arteries. If only one vessel
be wounded, the hemorhagy may sometimes be
stopped, by holding a compress of lint for a few
minutes to the bleeding orifice. If the effusion takes
place from a number of small vessels it may
be restrained by a compress of lint coal pul-
verized, dry sponge, agaric, vegitable astringents
&c. but if these fail we must have recourse
to the ancient but faithful method of ac-
tual cautery. We sometimes find that
where the vessels are injured, if the exter-
al communication be small, that the
coagulation of the blood will stop the hem-
orhagy — I saw an instance of this in
a boy when he was quarelling with his school-
fellow, in which he received a wound in the
ham with a pen-knife — the immediate con-
sequence of which was an effusion of blood
in the cellular membrane of the muscles
causing a considerable tumor & great pain.
The whole calf of the leg was very much
distended. in this situation he walked home

on

increasing both the tumor & the pain, he went to bed. & the next morning both the tumor & pain were gone. supposing himself well he got up dressed himself & went down stairs when the tumor immediately returned. he returned to his bed again & the tumor subsided. this alleviation was experienced two or three times, at length I was called. & immediately pronounced it a wound of the popliteal artery. ordered the boy to be put to bed & order also the limb to be raised to take off the impetus of the blood by its gravity. the column of blood was considerably lessened by two or three bleedings. in about a fortnight or three weeks he was quite well. In such cases no probe should be used to ascertain the depth or extent of the wound, lest you destroy the plug formed in the orifice of the artery & bring on hemorrhagy. The practice of some surgeons of stuffing the part full of lint, is very injurious & out to be avoided. lest you tear open the coagulum which nature has kindly formed. — —

After the stoppage of hemorrhagy bandages. of adhesive plaister. or sutures must be had recourse to for approximating the edges of the wound —

&

If the injury be done to the extension of a limb it may be necessary to apply a long splint to secure the limb in an extended position.

In most cases adhesive plaister will be found sufficient, but in wounds of the abdomen sutures must be used, or else the patient will be liable to hernia at that place.

The coagula should first be washed away and then the adhesive plaister will be found sufficient, spread on leather or linnen, and should be applied transversely across the incisions drawing the edges together —

They should be applied in such a manner as to favour the escape of the blood matter and keep always taking care to leave an opening at the most depending part of the wound, if possible for this purpose, for if it be confined it may collect in the cellular membrane & occasion abscesses —

The strips should more especially be separated when an artery or a vein has been taken up so that the pus which is necessarily formed, may have a passage to escape —

After the sides of the wound are drawn together & secured by the adhesive plaister, a portion of lint suited to the size of the wound

+ a hora posição

& dressed with any kind of cerate may be applied to it on the top of which a compress of linen is to be applied & the whole secured by a bandage —

These dressings should not be removed in less than Forty Eight hours in which time I have seen a union of the divided parts —

Inflamation is now only to be feared: & if it should run high blood-letting must be used according to the symptoms, fingers may be employed to prevent convulsive action &c. &c. —

If no inflammation be present & the patient be weakened, he may take some animal food, & some inflammation is necessary to cause an union —

This practice is recommendable except in wounds caused by glass, which should be left to suppurate as part of the glass may remain in the wound ——

Lesser transverse incisions may be remedied by adhesive plaister, in most cases, where the limb is placed so as to cause no restraint in bringing the edges together, This should always be prepared to stitching it up with a needle & that

for

for two reasons, 1st. avoiding pain 2nd every stitch of a needle adds a new punctured wound to the injury. & the thread mostly occasions a suppuration by the irritation it produces, but there are some parts where suture must be used, as in the eyelids, nose, ears. sutures &c. where the parts are so flexible, as not to admit of other treatment. We should be carefull in injuries of the scalp, not to draw the divided edges together too tight. lest by overstretching the flaps, we stop the circulation, & so produce mortification of the loosened part.

A punctured Wound is a separation of the soft parts communicating, by a small opening externally, The irritation here is greater than in incised wounds. In cases of punctured wounds we should be very cautious in using a probe for investigating the extent of the wound. since by that means we irritate the wound, & destroy the adhesion that may have taken place & thereby retard the cure. if necessary it is better to make an incision to examine for any extraneous substance near the surface, than to use a probe or forceps for that purpose: this should be done soon after the accident, or before matter has collected

in

in a punctured wound. & the extraneous body by which the injury was produced, be not discharged it then becomes very necessary to dilate it. & also when large vessels have been wounded, & cannot be taken up without, or when the constitution suffers from them.

In July 1795 a lad in getting over a fence fell on a nail, which ran in the flesh toward the knee, an inch upward, toward the joint; febrile symptoms came on & he complained of sickness in the epigastrick region, & pain in his neck & head his pulse was frequent & quick. the wound was opened & the opening was immediately translated to the wounded part. & excepting here he felt no pain in any part of his body. the wound was dressed with a common poultice & healed kindly; I knew a lady who was thrown into convulsions, by puncturing her finger with a needle, the convulsion continued for an hour & a half, the puncture was then dilated & the spasms went off, without returning. When punctures or contusions happens during warm weather, they should not be healed too speadily but suppuration of the parts should be promoted, cordial diet & wine should be given & as we thus frequently prevent tetanus.

Lacerated Wounds are made with blunt instruments which kill the flesh it separates. Anodynes combined with a small portion of emetics so as to act as sudorifics, for the purpose of composing the patient, should be given & bread & milk poultices applied, to the part, till the dead portion comes away. If inflamation accompanies with fever, supervene it must be treated with the common remedies. If symptoms of mortification come on care the patient with opiates & prescribe porter cuina bark &c ——

Penetrating Wounds Are such as extend into the cavity of the abdomen, thorax &c When they happen in the thorax they are attended with great danger, by causing inflamation in the cavity.

If the lungs be wounded or punctured large by the air gets into the cavity, the lungs contract & the patient respires with great difficulty. ——

If the lungs be wounded the patient coughs up blood, & there is likewise an effusion into the cavity causing great depression. Sometimes the ribs are injured so that we have to take them up. —— If one of the intercostal arteries be divided so that we cannot take it up, it has been recommended to pass a thread round the rib by means of a needle & secure it in that manner by tying a double of knot over the artery, this I have never performed & I believe may be effected without the danger of wounding the lungs or leaving part of the thread in the thorax by cutting down to it & securing it by the common

means

* A boy whoom I attended with a wound which was caused by the limb of a tree entering the thorax under the scapula & along side of the back bone discharging a bloody of cotton which had been applied before I was called by the mouth as large as my thumb- sometime after this a large piece of linen rag was coughed up in the same manner - the patient recovered, but had an enlargement of the joints of the fingers & toes for a long time afterwards that looked very similar to a Charnet in the first colour -

J. F.

Balls & shot occasion the worst wounds because they tear the parts, & occasion a loss of substance. wounds of the thorax are very distressing, they generally inflame the part where they enter & make sloughing off necessary, before the orifice can heal, the patient is affected with anxiety & difficulty of breathing.

Blood-letting, rest & low diet is necessary, the dressings are apt to be drawn into the cavity of the thorax in breathing*, this once happened in a case under my care; we should therefore dress such wounds with adhesive plaister, or bread & milk poultice confined in a gauze bag. the edges of the wound when not killed, should be kept together, in order if possible, to make them unite by the first intention. When the sides are approximated, & united the cavity is rendered complete & the cure is effected. No bad effects are to be dreaded from the air that is left in the cavity, for this never causes inflammation as is proven in emphysema. The inflammation when it supervenes, arises Dr Hunter says from the stimulus of suppuration.

A quarrel arose between two officers playing at cards; whereupon one stabbed the other with a dirk just above the right pap in the chest, the air had passed into the cav-

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dy. when I saw him. his extremities were cold his pulse small & irregular, no symptoms of inflammation of the pleura appeared. I applied adhesive plaister over the wound & the 3rd day it had united & on the 6th he was able to go into the street. In wounds of the thorax. if part of the lungs has out through the opening, it should be immediately returned. even if inflamation should have taken place. but if it has mortified then it should be left protruded until it slougher off—

Emphysema. When a wound penetrates into the substance of the lungs. & the air pases out by the wound. if the orifice through the integuments does not correspond with the wound within the air will then pass into the cellular ~~membra~~ texture ne distending the various parts. constituting the disease called emphysema.— This may be prevented by making a small opening through the legiments. that will correspond with the one beneath. but if the air should not pass readily through this opening. it should be dilated. being always very careful not to wound the intercostal artery.——— Having spoken of wounds in general. I shall proceed to particular ones. & first of—

Wounds of the Face. as there are many cases in the treatment of which sutures are always unnecessary so there are cases in which they should never be used. the ancient surgeons used sutures in allmost every case of wounds. but in wounds of the face sutures should never be used as they

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occasion deformity. by the marks of the stitches that remain after the wound is healed. I have seen a lady, one side of whose face was very handsome & the other as much deformed, in consequence of this mode of treatment. In wounds of eye-lids unless the tarsus be guarded adhesive plaister will answer. When the sutures is employed we should be very careful to avoid penetrating the tunica adnata the thread should also go through the skin of the eyelids. for if the stitch should come in contact with the globe of the eye it would continually irritate it & bring on inflamation of the globe itself. I have seen a case when a shot has entered the eye just at the edge of the sclerotica. & penetrated to the chrystalline lens. I have seen another case when the eye of a young lady was punctured with a piece of glass. from what we can see the eye may be wounded we should endeavour to remove all irritating substances & by well timed bleeding, purging, low diet, & clysters, scarification &c. with the use of collyrium we may prevent suppuration. The best Collyrium is the infusion of the bark of Sassafras, or milk & water The patient should be kept in a dark room; if blindness occur it is sometimes in the surgeons power to remedy it by an operation. — Of this however I shall say more hereafter. (A case of Dr J. R. Coxe's child. for which see his museum.) Generally in wounds of the lip unaccompanied by a loss of substance. It will be sufficient to bring the divided edges together with adhesive plaister but if a portion of the lip be lost the suture is necessary. —

In

In wounds of the tongue which we sometimes find to occur from biting it or receiving a blow on the chin while the tongue is protruded. It is necessary to use the interrupted suture. As it is difficult to get at a wound of the tongue, the patient shutting his mouth with pain it is necessary to place a stick of wood between the teeth, to prevent getting bit, if necessary, the tongue may be drawn out by a hook. Wounds of the tongue generally heal in about 5 or 8 days.—

The patient should be fed with spoon victuals.

In wounds of the Ears simple suture is sufficient

Wounds of the Throat, mostly occur to people intending to commit suicide when the skin only is divided there is no difficulty in curing of but sometimes the trachea is divided & the large vessels are exposed. The first thing to be done is to secure all the bleeding vessels, whether arteries or veins, even if carotids be divided they may be secured by a ligature as the circulation may go on to the head by the vertebral artery. When the hemorrhage is stopped the sides of the wounds may be approximated. this can mostly be done if small by adhesive plaster alone, but if that be not sufficient we may use sutures taking great care to include the skin, & cellular membrane only. (for if a stitch was taken in the pharynx it might create vomiting by its irritation. & if the trachea it might create a continual coughing.) When this is done the head should be inclined forwards to favour the union of the divided edges & be secured in that position by a bandage. I believe in every case it would be most proper not to draw

the

the edges too close together, so that the blood and matter collected may be discharged. All the vessels should be tied although apparently done bleeding for if any blood be left oozing from the orifice it may escape into the larynx and cause suffocation. In wounds of the throat a great inconvenience results from swallowing, as every such attempt must separate the sides of the wound. To remedy this it has been proposed to introduce a pipe through the nose into the throat. but this causes too much irritation to be practicable, as it keeps the patient continually coughing or sneezing. He should be supported by nourishing injections frequently repeated. & by introducing a pipe through the wound, if the pharynx is divided & conveying the food through it, as all the bad consequencies from this mode is experienced when the pipe is first introduced. If a cough occur it must be relieved by demulents (an extraordinary case related)

Wounds of the Abdomen if superficial should not be treated differently from wounds in any other part of the body, but if they extend through the parietes, there will be danger of peritoneal inflammation, to prevent this it will be always desirable to unite it by the first intention.

If the intestines protrude after cleansing them they should be returned & the wound closed

by

by the interrupted suture. In the suture a needle should be used to each ligature; & the stitches should be commenced internally, at about three quarters of an inch from the divided edge, & the stitches to be about half an inch apart. —

The patient should be kept to a rigorous diet, & the bowels freely opened by mild purgatives — When union shall have taken place between the divided edges, the sutures may be removed. & the adhesive plaister used.

If any of the viscera are wounded, they should be secured before the parietes of the abdomen are attended to. The chief danger arises from the wounds of any of the hollow viscera from the probability of their pouring out the contents of them into the cavity of the abdomen. & exciting peritoneal inflammation. Generally in wounds of the abdomen a part of the omentum protrudes at the orifice: & if the intestines be wounded parts of the intestine pass out & the patient will have bloody stools. If the stomach be wounded food will pass through the orifice, vomiting of blood will be induced together with cold sweats, & a tendency to faint & when it proves fatal the patient dies about the 3rd day. When the intestines are wounded they may be united with about 4 stitches, the knot may

be

be tied so as to be on the inside of the intestine.
When this is done cut off the ends of the thread &
return the intestine, ~~and~~ ~~pass off by Stools~~; it was,
The thread will get into the cavity of the intestines &
pass off by Stools; it was formerly the custom to bring
the ends of the ligature out of the wound in the
abdomen, in every case, till Dr. Cooper proved
that the remaining part of the thread if cut
close & left in the belly will get in the intes
-tine & pass off by Stool. Transverse wounds of
the intestines are easier healed than longitudin
-al ones. & it costs much more difficulty to close
a longitudinal than a transverse one, since
the diameter of the intestines is diminished by
the former causing an obstruction to the faces
if the place of the longitudinal wound be not
too extensive that portion of the intestine
may be removed & the the transverse ends
brought together this practice has been tried
and Succeeded when 3 inches of the intestine
had been cut out, The patient should be fed
Sparingly so as not to distend the intestines,
his food should be almost altogether Spoon
meet Laudlum should be given to allay the
pain & keep the intestines still, so that their
peristaltic motion may not prevent an union
Glysters should not be given lest probably

a

a part may escape by the wound. ——— Even the stomach may be stitched when wounded — I have known an instance in which it was done & the patient recovered. When the omentum is wounded some hemorhagy takes place, the bleeding vessels may be taken up with the tenaculum, secured by ligature, & the omentum stitched but the ends of the thread must be left out of the wound in both cases. —— sometimes the bowels are injured but do not protrude & it has been a question ~~& it has been a question~~ whether the wound should be dilated to search for it or not. I believe that is right to dilate it in a degree to search for the wound if it is not already large enough, but the wound should be enlarged freely lest we induce great inflammation; but there are cases in which the intestines have been wounded & nothing done, in such cases it commonly unites to the peritoneum, round the wounds of the parietes, by adhesive inflammation. —— It would seem when the intestines are wounded they stop their peristaltic motion so as not to prevent their adhesion.

When the bowels are injured & the wound cannot be discovered, if the injure be large enough for the intestines to protrude it should be stitched up — If inflammation supervene, copious bleeding, low diet, purging &c. are necessary

say — And sometimes the circulation seem
week yet the inflammation may prevail to a con-
siderable extent. In wounds of the liver, if the
right lobe be injured the pain is felt in the
right shoulder, if the left lobe the pain is felt
in the left shoulder. it is of a dull heavy kind.

If the wound be small it will in genral
heal soon, but if it be large then is, in general
a considerable hemorrhagy, & sometimes inflam-
mation is produced in the peritoneum by the
accumulation & distention of the blood in the
abdomen. In those cases little can be done,
the patient should use evacuants, & live on bar-
ly water & the like. If the gallbladder is wounded,
its contents escape into the cavity of the abdomen,
In those cases it comes by its stimulus violent in-
flammation. It always proves fatal. I believe
the same happens in wounds of the pancreat-
ic duct. —

When the kidneys are wounded, the patient will
hap bloody urine. & if it hapes into the cavity of
the abdomen it produces death, though the back
part of the kidneys be wounded, & the wound heal
without any convenience. Wounds of the bladder
mostly prove fatal, when they communicate with
the cavity of the abdomen but when wounded below
they are attended with no bad consequences. —

In

In wounds of the joints. If we are not very careful, inflammation & suppuration occur. they should be treated by adhesive plaister. If you use sutures be careful that you do not penetrate into the joint for the irritation of the thread would cause inflammation of the whole joint. I saw a case where a turner cut his knee with a chisel the wound was oblige penetrating through the capsular ligament. It was closed with adhesive plaister a long splint was applyed reaching from the ischium to the ankle to keep the leg extended. no unpleasant symptoms came on & the patient was well in about a week. I have seen wounds of the joints where the bone was injured & yet the patient got well by this mode of treatment. Wounds of the joints should always be treated with the limb extended & unite by the first intention if possible. The bad effects of an opposite treatment where the sides are prevented from coming together by lint, may be seen in the following case.

A patient who had received a wound in the knee was treated in this manner & in consequence, affected with fever, delirium itching, convulsions &c; so that he could not sleep unless 2 persons sat by him & held the limb. abscesses formed around the capsular ligaments, both above & below the joint: every time the dressings were taken

him away, a considerable quantity of matter to-
gether with the synovia of the joint was
discharged. A great inflammation of the joint
took place, this was at first, a clean incised wou-
nd an Eczema came on but this was cured
by mercurial purges. ——

This patient however got well after four months.
besides common dressings in wounds of the
joints we use a splint, for the purpose of
keeping the limb extended this prevents the ugly
al symptoms, that occur without this precau-
tion, such as delirium twitching &c. together
with the inflammation of the divided sur-
faces. caused by the edges rubbing against each
other, it should be applyed so as to prevent
the motion of the joint, as a very slight motion
of it does a very great injury ——

The situation of the limb, when we expect
a with anchylosis, should vary accordingly to the
limb affected. If it be the elbow the arm should
be kept moderately flexed, for if union of the
bone take place, when the arm is straight, the
patient will have no use of the limb. so that
it will be any inconvenient, but if the elbow be
somewhat bent the patient can perform many
useful motions. But if the knee-joint be af-
fected and the limb flexed when union

takes

take place the patient will not be able to walk as well as if it was straight, so that in affections of the knee joint the leg should be kept extended. ——

The limb being brought in that position the wound should be dressed with adhesive plaister, & bound by a splint & roller. the patient should be bled & put upon an antiphlogistic regimen, purged & if necessary a blister may be applied. ——

Wounds often heal easily under this treatment though their first appearance is very unfavourable. The cartilages covering the ends of the joints are sometimes cut through, & yet unite by the first intention. ——

From observation I have been led to conclude that inflammation of joints does not so often take place as it would in any other part of the body from the same cause. the irritation producing only an increase of the formation & a much greater secretion of synovia in large ~~cacerated~~ wounds of the joints such as ~~Surgeons~~ surgeons call compound luxations: when the wounds must suppurate. it has been disputed whether the limb ~~was~~ amputated or not if it be not done there is sometimes danger of mortification from the violence of the in

flammation

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flammation, & if the patient escape this but being much reduced, he is in danger of Hectic, & if this does not take place, Suppuration, & hectic fever, & consequent amputation, are very likely to be the effects: at best the limb must anchylose & remain stiff ever after; & if anchylosis be prevented, the cartilages will be removed, & nothing but a ligature, will connect the bones thus rendering it perfectly useless; If attempts are made to save it the best application is a bread & milk poultice.—

There is more danger in warm weather; in persons accustomed to drink spirituous liquor, & in old people, than in opposite circumstances. Partial stiffness of the joint is owing to the adhesion forming between the capsular ligament & the joint or one of the bone, But there are circumstances where the joint cannot return to its natural situation but must anchylose.— Before a joint can anchylose, there cartilages must be removed as they never unite, they never inflame suppurate or become carious or slough off, but are removed by absorption, granulations are then thrown out from each end of the bone, & uniting together, remain the joint anchylose, forming but one bone.— To favour this process we should keep the joint still; for if the uniting parts be torn asunder, they will not so readily unite.

Authors

Author, without assigning any reason for it, have advised to saw off the ends of the bones; this remove the cartilages out of the way, without waiting for their absorption. But this is a bad practice because it is attended by very great pain & difficulty as well as a danger of wounding the soft parts.

I believe scraping off the cartilages from the ends of the bones with a knife, when the constitution cannot bear the mutation of it, long enough to be removed by absorption, will answer very well, & often better than the former practice. A splint should always be used, to keep the limb perfectly at rest.——

Wounds of the Nerves & Tendons When a nerve is is partially divided, it is said to produce great pains twichings convulsions &c (& this was said to be the case when these symptoms follow phlebotomy) but it cannot be dependant on this, for no surgical operation can be performed in any part of the body without wounding a number of the small branches of nerves & yet these symptoms seldom occur.——

The inflammation & swelling of the arm sometimes occuring after phlebotomy, I shall account for in a different manner.——

I mention this to guard you against a very terrible operation proposed by Dr Bell, which is to make a complete division of the soft

parts

x Dr Physic related the case of a woman who 7 days
after bleeding was attacked with violent pain
& inflammation of the part. it was treated by
blistering she had 60 applied time after time
& the arm fluctuated from better to worse
Dr physic was consulted he ordered a splint
to be applied to the front part of the arm
& the arm soon got well. but before the arm
was confined, the motion would break the ad
hesions that formed & make it as bad at first

parts at that place down to the bone.
When weakness is felt in the arm immediately
after bleeding & the operation be attended with pain,
& if it increase & become worse for two or three
days instead of better, then we may suppose a
nerve or tendon is injured, & an incision may
be carried a little deeper & the nerve divided com-
pletely, but I am happy to say that such cases
seldom occur — Perhaps the best symptoms of a
wounded nerve are a numbness, & partial paralisis
of the arm below where the nerve goes. ——
Wounds of the tendons are no worse than wounds
of other parts, unless punctures of the fascia.
These are sometimes attended with inflammation of
the parts beneath them, which are bound
down & compressed, & suppuration ensues; when
inflammation is attendant upon wounds of
the fascia of the thigh, head &c, A blister
should be applied over the injured part,
& if this be not sufficient to relieve the in-
flammation & matter be collected beneath.
a free incision should be made to give vent
to the matter; sometimes the tendons are quite
cut through: they require no different treatment
from all other wounds. The lips should be
united in the best position, & the edges of
the wound brought together with adhesive plais-

ter

it was 10 months before she recovered

ter. When the tendo achilles is wounded the foot
x toe should be extended. this may be done in
two ways. 1st. by fastening a roller to the foot &
carrying it over the hill the back part of the leg
& securing it to the thigh, or 2cond by a piece
of paste board placed over the fore part of the leg
& foot & secured by a roller —

Care should be taken in all wounds just
above the heel, not to make too great extension,
but just sufficient to bring the divided edges
into contact. for by extending the too too
much we throw the skin into wrinkles & bring
it into contact with the divided surface & thus
prevent their union. this will sometimes hap-
pen from the contraction of a part, even with
a moderate extension of the foot & turning in
the edges so that it cannot heal. ——

This we sometimes find after keeping it for
one or two weeks, without any symptoms of
healing, the skin should be turned out & kept
so by the interrupted suture, when the tendo.
Achilles is wounded the foot should not
be used for six weeks. ——————

Wounds of the Veins.

with the inflammation
& swelling consequent upon them is best treated

by

by Dr Hunter in a paper upon inflammation of the veins, published in the first volumn of the Medical & Physical Transactions.

When the symptoms, mentioned sometime ago occured, it was supposed that a nerve or tendon was wounded, & that the Physician was a bad operator. It has been proposed by Mr. Bell, under such circumstances, to a considerable depth so that the nerve might be divided, but this should never be done, though this alleviates the pain, & patients have got well after such treatment. It should not be done because it subjects the patient to much greater danger & the alleviation is owing only to the taking off the inflammatory tension of the parts by dividing it.

Sutures. I promised to give you a description of sutures. I shall therefore proceed with this subject. The suture I prefer are the interrupted & twisted. The interrupted suture are nothing more than a simple stich, made by means of a needle passed from one side of the incision, to the other, thro' the edges of the wound, this done draw the edges into contact & tie a knot, this, however, should not be directly over the wound, but a little to one side & the suture is then completed.

Finis

Twisted Sutures are effected by means of a silver wire incased in a steel point which can be taken off, & put on at pleasure; this is to be passed through the edges of the wound from one side to the other, which being done, draw off its point, that it may not hurt the patient, & the wire remains behind, through the edges of the wound, then take a ligature & wind it round the wire in the shape of the figure 8, always decussating in the center, & drawing the edges of the wound in close contact, when the wound has united sufficiently to take off the threads draw the wire out gently, & the threads will come away. ——

Gun-shot Wounds, were considered in the early periods of surgery, as a distinct species of wounds, —— the livid colour which ensued accompanied with a black slough, respiration, & gangrene caused them to suppose that the effect must have resulted either from poison, or from the part being burned (probably from fire & poison being so little known,) & the acrid substances which they applied to them frequently caused gangrene & large sloughs, but they are now considered as so many varieties of contused wounds. ——

If the body occasioning the wound of a round-

ish

ible figure. The wound is undoubtedly a contused one. When the ball goes with great velocity it occasions the death of the parts that are divided.
The greater the velocity of the projected body, the greater is the injury done. Sometimes the ball hapes through a part & in this case the surface at which it hapes out always heals first & with the slough, sometimes uniting by the first intention without the formation of any slough
The dead parts formed into a cunt should be extracted with very great care. To prevent hemorhage, we should therfore watch when it is about to slough off which is generally about the 10th day, or from the Eighth to the fourteenth but commonly from the Sixth to the twelfth. —
Some persons might think it necessary to extract the slough, when it becomes somewhat loose but all violence should be avoided. —
If the vessels divided be large, hemorhage frequently occurs, when the parts slough off, even when none had happened at the time of the accident, owing to the vessels being kettled by the violence of the contusion. & this dead portion comes away, when the parts slough with this dead matter —
I has been advised to bleed freely in all cases of gun-shot wounds: but I would not, in all

all cases. recommend bleeding at first. If
the ball move with a small degree of velocity
it does not destroy the divided parts. & therefore
these cases heal sooner than those where the ball
partakes of a greater degree of force, because in the
former case the parts are only torn. Gun-shot
wounds require the same treatment of all
other lacerated wounds. When the ball is lodg-
ed in the trachea. & the patient respires
with difficulty, it should be immediately ex-
tracted to preserve the patients life. Gun shot
wounds of the scalp are generally treated as
other wounds of that part. If is necessary, in
some affections of the scalp to lay it open by
incision, for the purpose of examining the state
of the cranium. When the cranium is laid
bare by a ball, the exposed part, if violent-
ly contused, should be removed; as the contus-
ion might occasion an abscess within the
cranium. These accidents do not differ from
other wounds & I believe they have nothing
peculiar to them ——— A gun smith deter-
mined to putt an end to his existance, while
his fellow-mates were gone to dinner. In order
to accomplish his design he loaded a pistol
& applied it to the back part of his ear. The
load did not enter the scull but took off
his whole ear & surrounding parts. so as to ex
pose

pore the bone. He was able to walk to the hospital, & relate the whole circumstance. he complained of a great pain of the head. trepanning was delayed. he was seized with delirium, inflammation of the dura mater came on & he died. Some surgeons advise the trepaine in all gun shot wounds, affecting the cranium but I would advise it only when symptoms of inflammation of the dura mater comes on. The patient feels easiest when the ball is extracted; When the fleshy parts are wounded, if the balls be deep seated & the orifice sufficiently large for the introduction of the finger, it is preferred to a probe, for the discovery of the situation of the ball & state of the part, & the probe would irritate & injure the part more than the finger & would be more likely to occasion hemorrhage. If the ball be superficial, The wound be dilated, & it taken out, but if deeper seated, we should not dilate it, nor use the probe. Indeed the oblique course which the ball frequently takes renders it impracticable. I knew a case of a wound in the ankle, where the ball made its escape up the leg. It was found lodged above the knee, the skin having prevented its escape. & in a wound near the sternum the ball was found half way round the body ——

The

The best application is flaxseed or bread & milk poultice. All stimulating substances should be carefully avoided. The treatment must vary according to the circumstances. Sometimes the patient is very much depressed & weak this should be relieved by anodynes. If the extremities are cold back, wine &c. may be used. Sinapisms to them are sometimes useful. We commonly bleed in gun-shot wounds but not always, as too speedy a removal of inflammation sometimes produces tetanus. We should not bleed indiscriminately, as the fever may be no more than necessary to produce health. for fever and inflammation are both necessary to health, in gun shot wounds. but if they are great depleting is required. I have seen a case where inflammation was done away altogether by bleeding, the consequence was tetanus ensued, & the patient died. When suppuration has taken place, we may use the bark & invigorating diet. & if neither inflammation nor fever come on we may continue them, but if they occur we must enjoin the antiphlogistic regimen ——

In gun shot wounds we must treat them according to the nature of the case or injury done. If the bone be fractured we must treat it like common fractures. It is always necessary in wounds of the thorax. To bleed as they are always attended with some inflammation

mation, I have taken 3iss. in 14 days. & the 1147
patient recovers; blisters are sometimes of ser-
vice. If the spine be wounded it occasions a
paralisis of all the parts ~~beneath~~ that receive
their nerves below the injury. if it be in the
neck above the phrenic nerve. it occasions a
paralisis of the diaphragm, & the patient dies;
if it occur below the nerve, he may live several
days; but commonly dies in about 4 or 5 days.

Wounds of the Abdomen are injurious according to
the viscera wounded. In wounds of the liver I wo-
uld recommend copious bleeding. If the Gallbla-
dder, the patient is affected with violent inflam-
matoire, caused by the irritations of the bille, &
he always dies affected with great depression.——

Wounds of the Stomach are mostly fatal; the patient
is much depressed, a disagreeable sensation, nau-
sea & vomiting of blood occur. A person who had
been drinking porter, received a wound in the
stomach, equidistant from the sternum & ribs,
some of the porter passed through the orifice & was
effused into the hypogastric-region, which was puf-
fed up, the patient complained of great pain
& anx. the edges of the wound in the stomach,
united by the first intention. & no sign of in-
flammation of the stomach appeared.——
I believe he would have survived the injury done
to

to the stomach, & other parts. had not inflammation of the peritoneum taken place. in consequence of the contents of the stomach being effused into its cavity

Wound of the Bladder

frequently prove fatal. I believe it is not owing to any acidity of that organ, but to the urine passing into the cavity of the peritoneum, & causing inflammation there. for we often see the neck of the bladder divided without any bad consequences. In all cases, rest is a necessary part of the cure. the patient should keep very still, his food should be mild & opening. Clysters should be applied to the abdomen, as well as fomenting poultices. & the wound should be closed by an interrupted suture, when situated in the abdomen.

When a bullet passes through a joint, so as to injure the bones composing it, there is very great danger. If hectic fever supervenes amputation is necessary but frequently the injury partakes of lacerated wounds, & sometimes heals by the first intention. When amputation becomes necessary, I would recommend it to be done immediately, because by this means hectic fever does not come on, we avoid inflammation delirium &c & the the patient is more willing to submit to it now than at any subsequent period.

Ulcers

Ulcers. I have said sufficient in my power lectures to give an idea of the definition of ulcers, they are a frequent occurence in the practice of medicine, & it behoves, those who attend at the hospital to pay the greatest attention to the appearances, & best methods of cure of ulcers, since a knowledge of their appearances & treatment constitute a principal part of the practice of a surgeon. ——

There are 2 methods of cure, 1st by nature, & 2nd. by the assistance of art. — As to the causes of ulcers, they are of very little or no consequence, the manner of treatment being the only thing necessary to attend to. — To the Healing of ulcers there are 3 impediments whatever injure the constitution — Œdema. & improperly dressings. — I shall begin with an ulcer in the healthy constitution I shall confine my observations chiefly to ulcers of the legs. In healing an ulcer the first process is the determinence of their edges, — next granulations appear, raising the surface to a level with the contiguous parts, the granulations appear first, in little red points, & spots, & are covered with coagulable lymph; pus is secreted of about the consistence of cream; the healthy granulations are of a red or bluish white colour, by the subsidence of the inflammation, the sides of the sore are brought near together, & the gran-

-ulation

-ulations have a tendency to unite, this power of contraction diminishes the size of the sore & consequently lessons the extent of the disease. This power of contraction is very fully exemplified in the extirpation of schirrous breasts. the skin is at first thrown into folds, sometimes resembling the mouth of a purse, drawn together by a string, but it at length becomes smooth. It is nothing more than the consequence of contraction. The next occurrence after the granulations are brought to a level with the old skin is the formation of a new one. The granulations adhere to the edges of the sore from which the new skin is commenced. It is of a whitish colour, & the cuticle is formed at the same time & the new skin is continued over the sore. This new production, in old ulcers, is not confined to one place alone, but is found in many parts, constituting small spots, like little islands, on the surface of the sore.———

In the Treatment, we may apply any lint to the sore, which will absorb the pus. & prevents it from becoming dry & irritated. Soft dressings, which may or may not be spread with a little cerate should be applied over this, & the whole covered with a roller, which should not be wrapped very tight for then the lint

would

would be prefred into the granulations. Un-
der this treatment they will soon heal up, &
form a cicatrix. Mr. Baynton has advised
to aproximate the edges with adhesive plaister spread
on strips of oilskin which will exclude the air.

If the ulcer is on any capillary part, it must
be shaved before we apply the plaster. We should
be careful not to apply the strips so as to
cover the whole of the sore as we should by that
means prevent an evacuation of pus but the con-
tiguous parts should be prefsed every day to
evacuate it, if the dressings stick they may be
wet with cold water, before dressing which also
alleviates the heat & inflammation, the prosess
of granulation is assisted by drawing the the
old skin over the sore, this not only supercedes
the necessity for the formation of much new sub-
stance, but also lessens the extent of the sore.

It sometimes happens that the sides of the
ulcers will not unite when aproximated; they
should then be washed with spirits or touched
with some escharotic, as blue vitriol lunar cau-
stic &c. according as their nature has been proved.

If these remedies fail, the surface of the sore
if small should be exposed to the air, to dry
and form a crust under which a new skin
often forms, & when the crust comes away,

the

sore is healed. It sometimes happens that the flow of pus is so great as to prevent the adhesion of the sides of the ulcer so they cannot close up: an astringent wash will entirely obviate this, for this purpose I used a wash of vitriol. abb: & Sac. Sat: in a patient of mine. which immediately stopped it. adhesive inflammation came on & the patient got well in a few days. In healthy constitutions, ulceration seldom demands the aid of a surgeon: the vessels are firm & vigorous. & capable of carrying a healthy action in the extreme vessels, greater action must necessarily take place in the lower extremities, than in the upper part of the body. to support the impending column of blood. when we walk or stand erect. & to counteract the effects of gravity. hence the vessels of the newly formed part being weaker than those originally formed are unable to support the column of blood when excercising in an erect position & this is the reason why in ulcers of the leg the vessels sometimes burst. In others the vessels do not give way. yet the parts are too weak to carry on the circulation. & the sore becomes of a livid colour by the stagnation of blood. By a rupture of the vessels the inflammation is increased. & bloody serum is discharged.— In this state the vessels may be stimulated, by camphorated spirits, or even alcohol. this discharge acts as a stimulus. alias, irritant to the new & tender granulations. inflammation comes on and the

the secretion of good pus is diminished: if this discharge is not soon stopped, the granulations slough the bad symptoms return, & the sore is enlarged, the best remedy in this, as well as in various ulcers, is a horizontal position on the back, & perfect rest & when this cannot be done, a bandage should be applied to prevent an over-distension of the vessels.

Bandages, are of 3 kinds, the laced stocking, strips of leather; of muslin, or of linen spread with adhesive plaister, the cotton ones are inapplicable, A laced stocking would answer every purpose, but it is very difficult to obtain, the use of bandages is to support the vessels when we are erect.

Œdema, is another impediment to the cure of ulcers, & is formed by adhesive inflammation which lays the bases of the granulations by uniting the outer parts of the cellular membrane, the watery part of the blood is thrown out of the cells of the adipose membrane distending the pores of the skin, & stretching the vessels, & the cells being rendered more compact by the adhesive inflammation, cannot give way to the distending force, which presses against the granulations, & if the distension be long kept up they will be apt to slough off. Œdema generally subsides at night & the injury done during the day is then repaired, in this way it will often continue some time. the Œdema

aid

destroying by day what is renewed by night. In the cure or Treatment, rest & a horizontal position are necessary. if this is not sufficient a roller must be applied. Some authors advise the patient to take some exercise after the application of a bandage, it is certain that the parts will sometimes heal speedily under this treatment, but I believe sooner if the patient is kept in a state of quietude. The bandage should be applied in the morning before the patient rises, & consequently before the leg swells. A third impediment is that method of treatment which some surgeons call "Dressing to the Bottom" It is pressing lint & other substances to the bottom of the wound & is a very hurtful practice as it, unites the uniting parts, & keeps them asunder, & consequently prevents their healing. all such dressings act precisely as a pea in an issue. I might next enumerate different powders, salves &c. that prevents the healing of ulcers, but it is unnecessary. I shall however just mention, that all stimulating salves, are improper, they either bring on inflammation, or, by their acid qualities act as corrosives, & by removing these unnecessary dressings, we put the sore in a state of healing. Dressing to the bottom was the ancient mode of treating fistula in ano. Whatever impairs the constitution independant of specific, diseases is an impediment to the

the cure of ulcers. The use of spirituous liquors acts in this way, as we see ulcers in people frequently intoxicated very difficult to heal, any warm or cold weather retards the cure of ulcers, fevers are very generally hurtful. Tho' I have seen an ulceration as large as the palm of my hand after resisting other treatment for 6 months, cured by a fever in 3 days. The simple strength of the constitution has been supposed to have an effect in the cure of ulcers. Observation proves the truth of this in general as the parts are better able to go through their granulations, tho' I have seen them heal equally well in weak constitutions. I shall now speak of the different kinds of Old Ulcers, under the following heads. —

1st Of Inflamed Ulcers, these are known by their pain sourness & swelled edges accompanied with an increase of heat. They discharge a thin serum & other matter which has a purulent appearance. they frequently throw out coagulating lymph which coagulates over the surface of the sore, adhering slightly to the granulations. but the granulations formed are not healthy — —

Treatment. If much inflammation be present bloodletting purging &c are necessary, bread & milk poultices, or those made with linseed flour are the best applications to the part. & the patient should be kept in bed. When the patient is too weak to admit of evacuations & the ulcer be situated on the leg or arm. it may

may be raised to favor the return of the blood
this acts as a local depletion without depriving
the patient of blood. I have seen this accelerate
the cure immediately. When the inflammation has subsided it may be considered and
treated as a healthy ulcer in a sound part

2nd Fungus Ulcers. these have large granulations with
sound tops, which are above the surface of other
parts. & have no disposition to heal, & sometimes
have great sensibility, & bleed from the slightest
touch. in others they have little or no sensibility.
these may be treated with a simple compress.
& secured by a roller which keeps the granulations together. & prevents the growth of fungus.
If this is not sufficient the excrescence may be
destroyed by lunar caustic, astringents sometimes answer the same purpose. ——

3rd Edematous Ulcers. — In these the cuticle is an
~~extravasation~~ of serum in the cells of the
cellular membrane. the granulations
become of a purple colour. If the strength
be much exhausted evacuations will be
proper. the Edema can be often brought
down by strips of adhesive plaister. & raising the leg. If this does not answer. it may
be remedied by a roller bound from the
extremity upwards or by laced stocking. ——

4th Sloughing Ulcers. — In these the sloughing
frequently arise from a weakness in the gran-

ulations

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lations. In some cases when the granula-
tions have risen to a level with the sound skin.
they become of a black colour, mortification comes
on, & the slough. Sometimes the mortification
does not stop even at the edge of the sore, but
goes on sloughing at one part while the skin
forms at another, in general the mortification
takes place over the whole surface of the sore.

This is generally attended with febrile symp-
toms, but they sometimes die thro' weakness.
The part is generally very sensible to the touch.
Ulceration sometimes comes on both legs, one
breaking out while the other heals; this proves
that it does not depend upon weakness of consti-
tution, for then both should be affected alike.—
The Treatment, in cases depending upon weak
ness, should be bark, Opium, nourishing diet &c.
Dress with a poultice combined with laudanum.
when the mortification has stopped; carrots grated
& boiled in milk; or the fermenting poultice
mixed with powdered charcoal, may be ap-
plied to correct the fetor. Sometimes, while the
mortification is going on extensively maggots
are formed in the dead parts. To obviate this,
it should be washed over, with nitric or muriatic
acid, diluted in an equal quantity of water, af-
ter the slough has separated employ the common
treatment.—

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I shall speak now of ulcers that frequently occur in weak constitutions. they generally look well at first. the granulations rise rapidly, & generally to a level with the true skin, but are soon punctated, for the granulations in a short time change their appearance, become of a purple colour & a part is removed by ulceration. The patient should have a nourishing diet, & take the peruvian bark. Cold water may be poured over the sore 4 or 5 minutes every day; a weak solution of lunar caustic, or lint applied has proved useful. citron ointment, or lint dipped in a solution of oak-galls to which laudanum has been applied, have been serviceable. —

5 Indolent Ulcers is when nature has been frequently protracted in her attempts to form a cure; the parts become indolent, have no disposition to form a cicatrix; & when the inflammation is reduced, the edges remain in a callous tumified ring, in consequence of the coagulable lymph not being absorbed, when the inflammation is removed. —

The Treatment which best answers is to remove the callous edges, after the inflammation has subsided; & so change the ulcer to the same nature of one from accident. This may be done either by caustic, the knife, or by bandage-

bandages & prepare. Mr Baynton says the 176
adhesive plaister will mostly answer. When the caus-
tic is employed, we should when necessary, apply
it over the whole sore; taking care after it begins
to heal not to apply it too near the edges, or we
shall by that means destroy the granulations,
& prevent the cure. — Under this head I shall
speak of the application of mercury; this is
sometimes very useful in the cure of sores given in
small doses; but if this is found insufficient, we
should increase the dose till a gentle salyalism is crea-
ted. The tincture of myrrh, is sometimes used on the part
may be sprinkled with red precipitate, & dressed with Ung. Cit. —

5th Carious Ulcers is when the bone becomes dis-
eased. The dead part of the bone becomes a stimu-
lus to the absorbents to separate the dead parts of
the bone. I do not intend to enter into a dis-
cussion of the causes that produce exfoliation of bone,
but I can say that as soon as any portion of bone
becomes loose it should be immediately removed if
possible. When a bone is situate in a fleshy part,
we may discover whether the bone be loose by
the introduction of a probe. If the bone be tight
no pain will be felt on pressing it with a probe,
but if it be loose pain will be felt, even on
slight touching, in consequence of the dead part
being pushed on the new & tender granulations
& blood generally follows the probe, in conse-
quence

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-quence of some of the tender osseis being ruptured
It will often be necessary to make an incision down to the loose bone in order to extract it. a sponge tent however answers very well to dilate the orifice generally. Sometimes the exfoliated piece is too large to admit an incision being made sufficiently large for its removal because if we divide the osseis in so hard & callous a part it will be very difficult to take them up. To avoid this danger it is better to break the dead bone by strong nippers, after which the pieces can be readily extracted — In a case of carious ulcer of the lower jaw, it incited the maseter muscle to contract so that the mouth was kept closed a catelage was formed in this manner, so that the jaw could not be opened. The surgeon not understanding the case sent the patient to the City to have it dissected, supposing the adhesion of the parts had taken place —

7th **Varicose Ulcers**, are caused by varicose veins, & very much resembling ulcers of the indolent kind. The vena saphena became varicose most frequently prevent the ulcer from healing, they may be often cured by a tight bandage, or laced stocking, but these are necessary to be continued so long that the patient is often tempted to leave them off too soon — before the cure is complete. this may be superseded by tying a liga-
ture

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tine round the vein so as to take off the
column of blood. This practice was received by
Mr Hunter, & since then by Mr Home. Mr Home
recommends that the patient should stand
on a table & lean over the back of a chair, plac-
ed on a table. Thus the veins will be comple-
tely distended, & the ham will be at a con-
venient height. But in this situation it will
be convenient to apply a tourniquet to compress
the veins & lay the patient down, as then
will be a better chance to get light. & the
patient will be more easy than while stand
ing. as he does not labour the aegue of pain
attending the operation & is apt to faint
sooner. The vein may be tied up in the ham
the surgeon must pinch up the skin trans-
versely on one side of the vein, & an assist
ant the other. the skin so much divided
as shall be necessary with a scalpel (the
back of which should be towards the vein)
as to expose them. a silver needle with a
round point armed with a ligature, is to
be passed round the vein, & it being free
from the blood, is then to be tied. I applies
a small piece of lint over the vein quiet-
ly under the knot of the ligature, so that
when the sides of the veins have united,
the ligature may be cut away; without in-
juring to the vein, which may commonly
be done about the 5th day. After the liga-
ture is secured the edges of the wound
may

may be brought together, & a pledget of lint applied so as to prest it above & below the ligature. If the vena saphaena be divided both ends of it should be secured. sometimes both trunks of the Vena Saphena is affected. & then both should be tied but not otherwise ——

2dly This species of ulcer is caused by local or constitutional circumstances. & continued by a peculiar diseased action. as in Venereal, Cancerous Scrophulous Ulcers &c. Those that are entirely local may be cured by cutting the divided part out with the scalpel. or removing it with caustic but if one speck is left after the operation. as in the venereal buboes. Cancers &c the part spread like a ring-worm. & require the frequent use of the caustic. or they may be cured. by remedies peculiarly adapted to them. When the continuance of the disease depends upon a constitutional injury this must be removed. before the ulcer can be cured

Fractures. are solution of continuity of bones. in any part of the body. occasioned mostly by external violence. but this is not always the case. as the patella & humerus is sometimes broken by muscular contraction alone. Fractured bones occasion pain & spasms of the part. the limb is generally sounder than the sound one. blood is sometimes extravasated & occasions tumefaction. & in one instance the pulse could not be felt at the wrist. from the ends of the bone pressing upon the ends of the artery I am almost

very

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very instance the cuticles can be perceived. Bones are said to be most brittle in frosty weather, because slight falls in cold weather produce fractures. but the contraction of the muscles may contribute to this end. for instance when we lay on ice, the muscles contract with vehemence. & a sudden fall occasions them to act with still greater force & frequently produces a fracture. This is proven by intoxicated persons who very seldom break their bones in falling, owing to a greater relaxation of their muscles. An oblique fracture occasions great pain by the sharp edges of the fractured extremities, piercing the soft parts. & causing convulsive action of the muscles. & when cured is often shorter than the other, by the point of one bone lapping over the other. The limb readily admits of flexion at the fracture. & is often distorted —

Fractures are Simple or Compound. A simple fracture is when the bone only is broken. in a compound fracture there is a division of the surrounding parts. so as to admit of external communication with the cavity of the fracture. if the external communication is small. it sometimes heals by the first intention. & in then similar to a simple fracture — In Simple Fractures of the extremities. the limb should be placed in a

state

state of relaxation & the ends of the bone brought into their natural position.

In general the convulsion ceases when the limb is reduced. This is in common easily effected, but when it cannot be done by the ordinary means, the patient may be bled, ad deliquium animi. If inflammation supervene, it should be reduced by bleeding & the antiphlogistic regimen. The bowels should be kept moderately open. — The limb is to be kept in its position by bandages & splints.

Splints are stiff firm substances, & are of four kinds, wood, leather, whalebone & pasteboard of these the last is preferable, because they can be moulded into any shape, by wetting them in hot water, & adapting it to the part & when it becomes dry it retains its figure. We are often not called not till several days after the accident happened, & considerable degree of swelling & inflammation have taken place. This should be removed before we attempt the reduction of the limb by bleeding, low diet, & the application of lead-water poultices, as union does not take place when much inflammation is present. I may venture to propose it as a general rule that at the end of 8 or 10 days after the part during we should always examine the part if any displacement has happened. & an alteration be necessary, you may make as much as you please, as but little union will have taken place, but if any circumstance occur, especially irritation,

that

that seem to render it necessary. It should
be opened whenever they occur. The patient should
be kept on a low diet. & submit to evacuations by
venæ section, in proportion to the inflammatory symp-
toms. If the patients constitution be unhealthy
or weak it may not be necessary to evacuate at all.
The dressings should be loosely applied at first,
or less if the limb swell it may stop circulation
& produce mortification. The time necessary for
healing the fracture depends on the age con-
stitution & place of fracture, & the size & si-
tuation of the bone. The bones of young people
heal sooner than those of old & the jaw or ribs
sooner than the fibula. The bone in some in-
stances does not unite firmly but forms a sort
of joint*, & in part the ends of bones are som-
times tipped with cartilage, & have a sort
of capsular ligament. Two cases of this kind
were cured in Pennsylvania Hospital, by
moving the broken limbs, so that the extrem-
ities might rub against each other. This was
effected by causing the patient to support him-
self on crutches, & bearing as much as possi-
ble on the injured limb, which irritation seems
to cause the troops necessary for the formation
of bone, to be put in action. The adhesive inflam-
mation is produced coagulating lymph is
thrown out, which soon becomes vascular, then
cartilaginous, & lastly, firm bone. Mr Wardrop
says, when the bones will not unite, we

should

should make an incision down to them, but he 185
does not tell us of ever having done it. It has also
recommended to amputate the fractured ends after
we make the incision as recommended in wounds
of the joints, but it is a dubious tampying and
dreadful operation. It cannot be performed in
many cases, as in the leg & forearm. —

I would advise you to pass a seaton betw-
een the fractured ends of the bone, the limb being
first extended to its proper situation. This is a
simpler method is attended with much pain
& inflammation & can readily be performed
in any situation. I have performed this ope-
ration with very good success. it was done by pass-
ing a needle armed with a skein of silk between
the fractured extremities. this by irritating the part
caused suppuration & inflammation with granula-
tions & in 12 weeks the patient complained of much
more pain. & stiffness, in bending the arm at
that place, owing to the granulations begin-
ning to unite the parts. these granulations soon
unite leaving only the small hole of the sea-
ton, which healed in a few days after its rem-
oval. In old people it should be kept in
a long time for it appears to me that the
soft parts around the bone, begin to ossify first
Simple fractures mostly unite by the first
intention. but bone require more time to
unite

unite than fleshy parts. the coagulable lymph first becomes vascular then cartilaginous & lastly bone. in this way the substance called callus is formed which being of larger diameter, forms a tumor round the bone at that place, but it generally diminishes, becoming less & less till it differs but from bone itself. at first the granulations is full of vessels, but their number gradually diminishes till it becomes pretty callus. If the wound be simply inflamed, union by the first intention fails, suppuration & granulation supervene & the granulations when examined are only vascular at the extreme point, the other parts being of the nature of bone.

In Compound Fractures the blood which effects the union escapes thro' the external orifice. Compound fractures sometimes partake of the nature of simple incision. but they are much often punctured, lacerated, or contused the fractured part of the bones being so blunt as to tear the soft parts, or the soft parts are very much bruised & the bone broken into several pieces, by the mechanical force applied, as when it has been run over with a waggon, or any heavy body falling upon it. The only application necessary in this case is emolient poultices. When the parts mortify, & the mortification extends to the parts that have not been injured, a blister should be applied hardly on the sound & hardly on the diseased part.

fractures

fractures may be transverse, oblique, longitudinal or spiral. Compound fractures are sometymes attended with profuse hemorrhage. When much blood is effused we should apply a tourniquet to the limb. When the blood is stopped we must next determine, whether the limb can be saved.

We should never conclude that the patient will infallibly die, unless the limb be amputated, but we should always state the danger of endeavouring to preserve the limb, & let the patient & his friends decide. but if the part be so mangled & torn that the circulation cannot go on to the extremity, amputation must take place. It may be done before inflammation comes on or if this is not then done, we must wait till the soft parts slough, & then amputate the bone, but it is seldom necessary to amputate on account of hemorrhagy.

If amputation be absolutely necessary, I would prefer it immediately, as we may by this means prevent tetanus & the patient is generally more willing to submit to it at this time than at any other. Considerable hemorrhagy sometimes takes place from the medullary vessels. Mr Gooch mentions a case of compound fracture, in which the stream of blood flowing from the medullary artery of the tibia, was equal in size to a crows quill. & as it ran in a long bony canal

canal he proposes to make 2 perforations
near the ends of the bone with a small tre-
phine which was by this means laid bare, & secu
red by perpendicular pressure. But I have found
in amputations of the medullary artery. the
blood effectually stopped by a cedar plug thrust
in beside the artery. so as completely to press
the orifice together. & left so for 8 or 10 days,
until an union of the sides had taken place.
If bleeding take place from any part of a
compound fracture in the leg or arm: the
femoral or brachial artery must be taken up.
but the ligature must be kept so as to admit
of a small quantity of blood to pass through.
I have been thought difficult to stop hemor-
hage from the posterior tibial artery. but I
have always succeeded by cutting down to
the artery & then securing it by a ligature.
When inflammation is great it demands
our attention. for if it be suffered to run on
to the suppuration stage. the patient will
be greatly weakened by the discharge of mat-
ter, his constitution becomes much emacia-
ted & hectic fever comes on. When the dis
charge is very great. & the hectic has taken
place. amputation is advisable. & is the
only mode of relief. for unless it be done
the patient inevitably dies. this should also
be done when part of the joints in large bones is fractured
In compound fractures we should ende-
avour to remove the splintered portions of
bone

bones if it can be readily accomplished, but if they occasion much pain in extracting them we must omit it till exfoliation takes place.—

It sometimes happens that the external communication is very small, so that the blood coagulates in the orifice completely stopping it up, & unacquainted the cause suspect, so that the bone unites as in a simple fracture, but if through too much officiousness, with a view to assist nature, the surgeon should wash out the coagulum the fracture will be rendered a compound one, & go through the process of suppuration & granulation; if the external orifice be very small a portion of any lint may be bound in it, which will become wet with the blood, & thus may form a scale. After the bones are united when the edges are not splintered: the edges of the wound should be brought in contact & secured by adhesive plaister, & thus reduce the accident to the condition of a simple fracture. I had a case of compound fracture of the tibia, where the ends of the bone had made their way through the contiguous parts, the incision was an inch & a half in length, but notwithstanding it united as a simple fracture, by this means & the patient got well in about 6 weeks. If the inflammation run too high it may terminate in mortification. To prevent this

this we should bleed accordingly. as the inflammation may require & apply bread & milk poultices. to the part. Some surgeons of large evacuations, at first, on account of the copious discharge that takes place, for fear of reducing the patients system too much not recollecting that the inflammation which proceeds it is the cause of the discharge of matter. But it is necessary to distinguish between mortification, caused by inflammation, & that proceeding from weakness; if it depend upon the latter cause, Opium, Bark, wine, &c should be administered, but if it be from the former cause, in compound fractures apply a blister. It will be necessary to distinguish between mortification produced by the parts being killed in consequence of violence applied, & that which is the effects of inflammation, as the parts in the first having lost their life must necessarily slough off. & in the latter the limb should be kept always higher than any other part. — —

Bones cannot bear much inflammation without becoming dead. — — I come now to speak of particular bones. — — —

The Ossa Nasi, are sometimes though not often broken, sometimes the fragments are pushed inward which occasions a difficulty of breathing. When the injury is not very visible it may be discovered by feeling on the part. — When the bones are in this condition they may be raised, by introducing a spatula, or something of this kind into the nostrils, & when raised it may be retained in its place by a gum elastic catheter, if necessary. But I do not think this is ever necessary & by producing irritation & inflammation it may be productive of great in-

inconvenience as an extensive sore. & perhaps
the fracture may be rendered a compound one
by this means.— If they project out they may
be returned by applying a compress or after they
are reduced they may be kept so by leather straps
spread with adhesive plaister: if the soft parts
are injured apply a bread & milk poultice.

The Lower Jaw is sometimes fractured at
the symphisis but most commonly between
the chin & angles & sometimes both sides
at once — The coronoid processes are very seldom
broken, because they are so well defended by
muscles — We can easily tell when this bone
is broken, tho the fragments are ever so little
displaced, by rubbing the finger along the bone
which will occasion pain. If one fragment be
taken in each hand, & then the ends of the bone
be rubbed against each other the crepitus will
be readily perceived, as also the contrary mo-
tions which each end will admit of at the same
time— The patient cannot grip the lower jaw
against the upper & when the fragments are
displaced, the rows of teeth are unequal.
When the fracture is on both sides the digas-
tric muscle will draw down the symphisis
while the other muscles keep the other part up.

Some surgeons advise pieces of pasteboard
to be applied to the jaw, to keep it in its
place, but the upper jaw acts as a splint
to which the lower jaw may be applied by a roller.
Apply the teeth directly together, having
the rows exactly over each other & securing
them with a roller. that which is generally
advised is the four headed applying the way

body of the roller over the anterior & inner part of the chin & then drawing two of the heads upwards directly over the top of the head & the other two heads from the anterior part round the occiput & forehead alternately. I prefer a simple roller. it will answer every purpose; the roller should be applyed several times over the chin & lower part of the jaw, & brought over the vertex, then around the forehead & occiput. The patient should be kept on spoon food. & forbid all food of the coarser sort. & should not speak or move his jaw for several days. the dressings should be continued for 3 or 4 weeks by which time union will take place. — The teeth are frequently loose. & under this circumstance authors have advised us to extract them. but this should not be done on any account for fear of making a compound fracture. & this is mostly accompanied with the death of the end of the bone —

When the **Spine** is wounded. there is always an extravasation of blood from the vessels of that place which extravasation presses on the spinal marrow, & consequently produces a paralisis of the parts that receive their nerves below the injury. Some have advised to make an incision down to the bone to discharge the effusion. but as it very uncertain whether it be posterior or anterior (& if the latter as it can be of no use) I would not advise it. if the spine be broken above where the phrenic nerve goes off. the patient immediately dies in consequence of respiration being obstructed by the paralisis of the diaphragm & other muscles concerned in respiration —. When the injury takes place below the 3rd vertebra colli. which

at

it commonly does. the patient generally dies in about 3 days — A paralisis of the lower limbs & the bladder & intestines, so that they cannot void urine, & scarcely faces, we should therfore draw off the urine 3 or 4 times a day & keep the bowels open with drastic purges, & as the diaphragm only carries on respiration & it is dangerous to lay the patient on his face as the pressure on the abdomen, would thereby force the abdominal veera upwards & thus prevent the ascent of the diaphragm. If the injury happen lower down the patient may survive a longer time, but I never knew a case of this kind, from which any one recovered —
As the patient is compelled to lie on his back, the parts on which he lies mortify; on this account he should be frequently raised & the parts rubbed with the hand, to prevent this circumstance as long as possible. When injuries of this kind have occured in the neck, distention has sometimes proved serviceable, & though this is very seldom of use; yet, for the satisfaction of the friends of the patient we may try it. —
To effect this we should pass 2 bandages round the head, one under the chin, over the top of the head, & the other from the occiput round the jaw part, & secure them together, an instrumen excavated in the middle, so as to rest on the shoulders, & not touch the head, & having a screw on the top, & a hole, in the piece, directly under & attached to the screw, to admit the ends of the bandages.

ages. In this manner extention is made against the shoulders / previously putting a pad on each / by stretching the bandages in consequence of turning the screw above. Another method is by tying the feet to the foot of the bed & the head to the head of the same. & thus apply extension, having a hole in the bed opposite the anus for convenience. — A patient in the hospital with this disease appeared to die in consequence of mucus collected in the trachea obstructing respiration owing to the weakness of the expiring force —

When the processes of the spine are injured, the consequence to be feared are not serious. The patient should be kept straight & at rest. —

The **Bones** of the **Pelvis** are very seldom broken, owing to their great strength. tho' I once saw the sacrum of the ilium split through. The patient cannot stand up, & when he endeavours to, suffers great pain, conveying a sensation as if he should fall to pieces. & on moving the thigh a crepitus may be perceived. —

All that is necessary to be done is to confine the patient, in an easy position, & to pass a roller round the pelvis having the patient placed on a matrass for a convenience — If inflammation come on it is to be treated as in other parts —

In a **Fracture** of the **Sternum** the part is to

be

be kept as still as possible by a tight bandage passed round the body. the treatment of inflammation if it comes on, has nothing peculiar

A Fractured Rib

, seldom occurs individually. sometimes 4 or 5 are broken at once. the most common cause are falls, or substances falling on it. Fractures of the ribs are commonly attended with great pain, when the patient takes a large inspiration, a hacking cough is most commonly a concomitant symptom. by applying the hand on the side when the patient coughs, the expulsion may be prevented. if the lung be wounded the patient expectorates a bloody mucus. & air passes into the cavity of the thorax. This when it takes place in a small degree is of no consequence, there will be a small angle at the place of fracture. if you press it it is of an irregular shape. & gives a crackling noise. sometimes a swelling of the body takes place called emphysema which is occasioned by the air passing from the lung into the cavity of the pleura. & at every inspiration it passes into the cellular substance. through the wound in the pleura. sometimes extending over the whole body. When the emphysema is partial. a cloth wet with brandy may be applyed to the part. & confined with a roller. Dr Hunter has published an

account

account of the treatment of such cases, in the 2nd Volumn. of the Lond. Med. Observations which I would advise you all to read. Once in a great while it is necessary, to puncture the cavity of the pleura to discharge the air. — When this is done it should be between the sound ribs, equidistant from the sternum & spine, because if we let the air to the fractured, we convert it into a compound one. for tho' it is already a compound one, yet the wound into the thorax is often so small, that the bone unites like a simple fracture. The air in the cellular texture may be let out by the punctures when necessary, though it never produces inflammation, as I shewed when treating of wounds. ———

In the **Treatment** of fractured ribs, a neat bandage should be lapped round the thorax so as nearly to prevent the motion of the ribs, the bandages should be supported by shoulder-straps to prevent their slipping down. If great inflammation of the cavity come on, it should be treated as that from other causes, by V.S. antiphs. neg. &c. For the cough which often remains sometimes, the patient may take some demulcent mixture, or a solution of Gum. Arab. combined with laudanum. sometimes small doses of Tinct. Opii. are very serviceable. In about 3 or 4 weeks, union will have to take place between the fractured ends of the ribs ———

The

The **Clavicle** is most frequently fractured about the middle. & it generally slopes from the scapula inward & downward. When it is broken in the middle. a displacement of the scapular fragment takes place, downward & forward, with seldom any displacement of the sternal part the weight of the arm causing that part to descend, while the pectoral sustains the other portion. & by its action causes the bone to appear shorter — If the clavicle be broken within the ligament, that connects it with the coracoid process, it cannot be much displaced & is frequently overlooked by the surgeon. This circumstance should always be remembered for by being overlooked, the little motion that is allowed, may prevent its healing, & produce an aneurism. & thereby cause a compound fracture. it may also subject the surgeon to be suspected with ignorance, but if it be broken in the middle, the crepitus may be felt on motion of the arm, the patient cannot raise his arm, & the shoulder will be lower than the sound one. When the bone is fractured between the acromion, & coracoid process, the crepitus may be felt. & the surgeon can generally feel an inequality, by applying his fingers to the place —

The **Treatment**, of fractured clavicles has been greatly improved by Mr Desault, by the ~~de~~ method of treatment. There was nothing to prevent the pectoral muscles from drawing the scapular fragment under the sternal one —

this

this practice is in short of no service, & is attended with a any serious inconvenience, Viz. excoriation of the axilla. The following is Dupault's method, to prevent the scapular part lapping from the sternal one. A wedge like pad should be applied under the arm, with the thickest part uppermost, while the arm is held at right angles with the body, & secured by a roller, which should be passed several times round the body to prevent its slipping. This intention is answered equally as well by sewing a roller applied in the middle to a pad which should be long enough to be carried over the sound shoulder, crossed there & then tied under the arm of the same side. The pad enables the arm to act as a lever to the clavicle, & effectually prevents one fragment slipping under the other.

The pad may be muslin or flannel stuffed with horse-hair, wool &c; another bandage is to be applied round the body & over the arm drawing the elbow close to the body so as to keep up the extension of the clavicle. the forearm should be bent so as to form a right angle with the arm & brought before the body on the opposite breast. It may have a turn or two round the wrist to support the weight of the forearm, or a strap may be passed round the wrist, & pinned to the other bandages, to support its weight. a piece of soft linnen or flannel should be placed between the arm and body, to prevent excoriation. the weight of the arm is next to be supported, for this purpose an assistant should take hold of the elbow

&

& push the arm upwards. This done a bandage 213
is to be passed round as follows: lay one end of
it on the breast, pass it over the fractured bone,
then under the elbow. & over the bone again. then
across the back. under the opposite axilla. across
the breast. & so over the fractured bone. again.
& pursue the same course as before — or
Place the end of the roller on the sound
breast then under the axilla of that side
afterwards carrying it across the back, over the in-
jured shoulder. under the elbow of that side,
across the back. under the sound axilla. across
the breast over the opposite shoulder. under
the elbow over to the sound axilla & so on;
we may know that it is properly applied by
its forming a triangle both before & behind. —
We must now feel the pulse to know if the
circulation goes on properly. & if it does not
we must loosen the dressings: the bandages
should be continued about 4 weeks by which
time union will have taken place, tho' I shou-
ld advise to continue them a week longer —
In a fractured Scapula the symptoms
are a dropping down of the shoulder, pain
& crepitus, the acromion process is sometimes
broken. tho' not often, but when this does take
place it is to be treated in the same manner
as a fracture of the clavicle. It may be
replaced by pushing the arm upwards. the
bandages are to be applied as before mentioned
& the dressings should be continued about 6 weeks.
When fractures of the scapula break off so
as to happen about the lower angle, it is drawn
downwards & forwards by the action of the serratus
major

major anticus. & cannot be pushed upwards but the scapula is drawn up by the teres major, when the scapula moves the lower fragment remains still. To bring the divided parts together the hand on the diseased side should be brought forwards to the other shoulder, which draws the scapula round, so that the fragments come in contact. A soft ball should be put under the arm in the axilla, bandages should be rolled round the upper part of the arm, breast & scapula, then over the shoulder & under the elbow, again over the shoulder round the body & so continued; bandages should also be rolled round the arm & shoulder, to secure the motion of the arm, & keep it in this position. & so prevent its moving the scapula, it commonly gets well in 4 or 5 weeks. **Fractures of the Os Humeri**, most frequently occur about its middle, & when they happen about this place there is no difficulty in ascertaining their situation. The patient cannot raise his arm nor use it any degree, it bends at the place of fracture, in any direction, & if if extension be made the crepitus may be readily be heard & felt. To reduce it an assistant should take hold of the condyles, bending the elbow & drawing it a little way from the body, to put the muscles in a greater state of relaxation, another should take hold round the patient under the axilla to make counter extension, or take hold of the opposite arm, the surgeon should take hold of the arm and place the ends of the bone in contact, this being done a roller should be applied round the arm, from the hand to the shoulder, it should be so tight as to make a moderate pressure,

but

but not so as to stop the circulation. Three splints are sufficient to keep the fragments in their situation. the splints are to be secured by another bandage. the forearm is to be supported by a sling, or what is better by passing a broad roller round the body so as to secure the arm. & thus prevent its moving in any degree. having previously made a compress, for to apply under the arm for the purpose of making the side level, for the support of the arm, the bandage for the support of the fore arm begins at the opposite side, passing under the hand, over the elbow, & round the body, & then pursuing the same course again, at the expiration of 10 days, we should examine the limb. the union at this time will be so soft that if any displacement have taken place it may be remedied. in 4 weeks we may gradually omit the bandages. if the forearm swell much we may wrap the bandages from the ends of the fingers, but this is seldom requisite.——

If the os humeri is fractured near its head, the patient complains of pain on every motion of the arm, & keeping the arm against the side causes pain, the lower fragment, generally falls in towards the thorax. (I never saw a case where it was before or behind,) if it be inwards the elbow stands off from the body, & vice versa. When the lower fragment is inwards, a pad should be applied close upon the axilla, between the arm & side to keep the bone in its right situation. Fractures near the head of the os humeri have been mistaken for luxation, & by trying to reduce the luxation, inflammation has been sometimes induced, by irritating the wound & surrounding soft parts. This mischief may be avoided by placing the fingers in the axilla when we shall be enabled to feel the fragments

ments, instead of the glenoid cavity, & by exten- 219
sion & counter extension being made, the crepitus
may be felt, on bending the arm. It is of great
consequence to ascertain whether the humerus be
luxated or fractured; for if the latter, & the lower
piece be inward, the patient cannot rotate his arm,
when it is healed in this situation.

Treatment, In fracture at the head of the bone,
begin the bandage at the wrist, & wind it to the sho-
ulder after the extension & counter extension have
been made. Two splints will be sufficient if they
are broad, but 3 if they are narrow, applying
one before on the upper side & another on the hin-
der part of the arm; these are to be secured by a
roller. The lower fragment is to be kept out
by a pad, which is best made by a piece of pla-
nnel folded up & placed under the arm. This pad
will serve instead of a splint. This being done
the arm is to be bent at the elbow, & secured by
a sling & a roller passed round the body, & over
the sling. & the roller should be continued round
the arm & body all the way up to the shoulder,
& thus all motion will be prevented. The arpings
should be removed in 8 or 10 days, & the parts
examined if any displacement have happened,
it may then be put in a proper situation; & the
ecchymosis which frequently appears in consequ-
ence of the bloodvessels being injured by the
broken fragments will have completely subsi-
ded, & we are the better enabled to judge of
its proper situation. I once saw a case where
there was so much ecchymosis that I could not
feel the bones at first. It has been recommended
to make an incision, to discharge the blood, but

but it should never be done, as it renders the 225
practure compound, the natural proces of absorption
will mostly remove it, but if at the ends of 3 or
4 months it be not absorbed a small puncture may be
made to discharge it; by this time the bones will
have united, & we shall avoid changing the prac
ture into a compound one; as soon as the opera
tion is done, the edges of the puncture should be
brought into contact, by adhesive plaister, so that
the wound may unite by the first intention. —
It sometimes happens from the excessive violence
done to the deltoid muscle that the patient
will be unable to throw his arm directly out-
wards & upwards, & it may perhaps be several
months before he will be able to do this; it is
always proper to apprize the patient of this at
first, that he may not think that the accident
has been treated wrongly. — The humerus is
sometimes fractured transversely, & sometimes
longitudinally, at the condyles, so as to separate
them. When the condyles are fractured, by
moving the fragment, we easily perceive the
crepitus, & the parts are so thinly covered that
the fracture may be readily felt. We may distinguish
this from a luxation by the patient being able to
move his arm, in the former case but not in
the latter, & the olecranon will be displaced in
the latter in practure the fractured condyle is frequently drawn
up. **Treatment** When the elbow joint is concerned
in any injury, the arm should be always kept
flexed, & a bandage wrapped round from the
wrist to the elbow, the bones are then to be put
in a proper situation, by extension & counter-
extension the elbow must be flexed to a right
angle

222

Fig 1

Two splints of this form. Viz A.D.C. shall form a right angle. The distance from A. to B should be long enough to reach from the elbow to the ends of the fingers, the distance from B to C should be sufficient to reach from the elbow to the shoulder, but this distance should be less in the one that is to be applied inside, than the one that is to be applied to the outside. The part which reaches from A to B should be weaker than that from B to C —

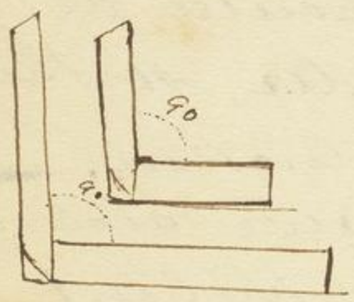


Fig 2

Two bent splints, one (which should be shortest) is to be applied to the anterior part of the arm & the other to the posterior. They should be cut out of pasteboard & bent of the proper shape. they should be narrower than those of Fig 1st —

Fig 3

There should be two splints of this form be employed in cases of deformity of the elbow joint. (Fig 3) they should be made of wood & cut so as to form an angle of about 160° at C — at A.B. it should be considerably wider than at C.D. & longer from A to C than from C to c. — A.B.C.D. to be applied to the fore arm, & C.D.c. to the arm. the length from C to c should be greater on the one that is to be placed on the outside, than that to be placed on the inside —

The splints for the anterior & posterior parts. (the thumb being placed forwards) should have the same angle, but should be bent in much narrower. & of the same width the whole length —

Treatment

angle. & the bandage continued up to the shoulder, Two splints of the shape of an L cut out of paste board. each forming a right angle fig1. should be applied. one over the internal, & one over the extenal condyle; then 2 more bent splints fig2 are to be applied. one anterior & the other posterior, & the whole are to be secured by bandages, the splints that extend along the forearm, should reach to the ends of the fingers. Every motion of the forearm displaces the fragments, & must be prevented by a bandage round the body & arm. In about 15 days we should take off the dressings & examine the limb, & if when the arm is held horizontally, the humerus & bones of the forarm, form an angle with its apex above or if they do not form an angle which points below, (which is the natural position,) we should apply splints very firm that form an angle of about 150 degrees, fig3 one of which should be applied behind & the other before, with the angle pointing downwards, & another bent to the same shape below. In 10 days more we should take off the dressings again, & bend the arm gently. which should be done daily, after this, to prevent a stiffness of the joint.

Fractures of the Olecranon, are mostly caused by falls on the elbow, & are always transverse. When the olecranon is fractured, the patient is not able to extend the forearm, because the triceps, which extends the arm is inserted into the detached fragment; the upper fragment is drawn a little upwards, from its place & it may be moved from side to side. **Treatment**, the forearme must be extended, & the procss being placed in its proper

sit

situation is to be secured by bandages, beginning at the wrist & winding to the shoulder, when the bandage has got near the elbow, the surgeon must feel, to ascertain if any portion of the skin, has got between the fragments, if there have it must be drawn out, & the bandage continued on. A splint should then be applied on the anterior part of the arm to prevent flexion. In about 10 days we may examine the fracture, & after the 20 we should remove the dressings daily, & flex the arm to prevent anchylosis. The dressings should be continued about fifteen days longer, till perfect union takes place ———

The Bones of the Fore Arm are frequently fractured, & the radius the oftenest as the ulna is seldom broken alone. The radius is commonly fractured at the wrist, when the ulna is not broken with it, no difference can be seen in the length of the radius; all the difference that can be perceived is an angular projection at the fore part of the wrist; the fracture is so low as to be taken for a luxation, under this impression the surgeon will put his arm in a sling, & union will take place forming an ugly projection, & the patient is not able to rotate the arm as usual,

We may distinguish between fracture & luxation, by the crepitus attending the former, we may also know by the tubercle at the lower end of the radius, not being opposite to the styloid process of the ulna as usual. It sometimes happens that both bones are broken at the same place: when this is the case the patient cannot easily flex his hand, whereas it

Fig 4

This is all the splint that is necessary in this case taking care to have it wide enough to prevent the bandage prepring on the bones so as to pour them towards each other

it can readily be done in luxations. the crepitus may be felt, the arm bends at the fracture, & there will be a lateral depression, by the bones being brought nearer together, —

Treatment, to bring the divided surfaces into place, the elbow should be bent. & an assistant is to take hold of the hand, & another of the elbow & make the necessary extension. & the surgeon can replace the ends of the bone without difficulty, by taking hold of the arm & squeezing the flesh in between the bones so as to prep them out, the interosseous ligament will prevent, their being prped to far out. This being done a bandage is to be applied, while the extension is continued, beginning it at the wrist & continuing it up to the elbow, care being taken not to move the ends of the bone. Two splints should then be applied wider than the arm, & long enough to reach beyond the fingers, so as to prevent their motion. they should be of pasteboard which is particularly answers very well. the (fig 4) splints should be coated with soft linnen. The splints on the back part should not reach to the elbow, or else the patient will pinch himself, whenever the arm is extended. A roller is to be prped round the splints & the forearm supported by a sling, being careful to keep the thumb uppermost, or else the patient will be unable to rotate the hand, if it heal in any other position

In

In about 7 days the dressings are to be removed & the fingers very gently flexed, 2 or 3 times every day, if they cannot be bent easily; but if they are readily flexed once in two or 3 days will answer, in order to prevent stiffness of the fingers, which would sometimes happen; but we must be very carefull not to rotate the arm during this time — At the expiration of 4 weeks union will have taken place —

The Metacarpal Bones, are sometimes fractured, the extension can be made by pulling the fingers, two splints are sufficient one on the palm & the other on the back part of the hand shaped so as to fit it, or if they are not of the same shape as the hand broad flat splints may bee used, & spread with tow so as to fill up the vacuity that would otherwise be formed ——

The Phalanges, are sometimes fractured, they are easily replaced, & secured by 4 small splints & a roller passed round them ——

Fractures of the **Femur** occur most frequently in its middle or rather below it, it is sometimes above also at the trochanter, & some cases at its neck. if it is fractured in its middle & the fracture be oblique, the bone appears shorter in consequence of one portion raping over the other, by the contraction of the muscles. The patient can not move his leg, he complains of a pain in his thigh it bends at the place of fracture & upon rotation, the crepitus is discovered, besides this, the

* The Dr then ancribed Mr Potts's method with some others that have been employed, & gave his objections to them, & concluded with observing, that the method proposed by Mr Desgault was much preferable to any he had seen

the limb will be distorted, the toes turning out-
wards, the lower fragment is mostly under the upper
one— The The Treatment now commonly in
use is the following: the extension & counter exten-
sion being made, the bone is to be replaced by
the surgeon, short strips of muslin or linen, placed
under the thigh are brought over & made to
decussate each other at the top, a splint is
then applied at the posterior, & another at the
anterior part of the thigh: these splints are made
of a piece of peace of leather glued to a piece of cedar,
& are secured by pieces of tape, tied round the
upper, & lower end, bundles of straw were then used &c

This method of treatment is not so convenient
as Mr Desault's + with a very few variations, I
shall describe the operation, Splints, Bandages
&c. that I most approve of— The patient should
be kept on a matrass, similar to that invented
by the son of James Carl, The matrass rests
on a sacking bottom— There both have a round
hole cut in the middle, opposite the anus, to
let the faces pass through, into the pan which
is to be placed under the hole, which is
to be filled with a cushion, made to fit it.
This is often servicable in excoriations of the
buttocks hips &c & when parts threaten
mortification from laying on them too long.
by placing the discased parts over the hole,
after taking out the cushion, The patient
should have but one pillow, to prevent this

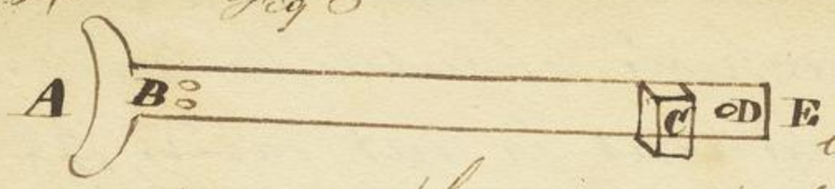
Fig 5

The short splint to go on the inside of the leg from the hemaium to the foot

his slipping downwards. Thus are several articles
necessary for the dressings. which should be laid
on the matrass before the patient is put on it. 1st
Four tape strings. one laid just above the knee
another midway between the knee & perinæum,
one at the upper part of the thigh. & the
last at the ankle. 2nd a piece of muslin to
wrap the splints in. & A splint that will reach
from the upper part of the thigh to the knee, &
placed so as to be immediately under the
thigh. 3 strips bandages long enough to reach
round the thigh. so as to lap a little over the
sides of each other & placed so as to reach from
the perinæum to the knee. 4th a small piece
of leather spread with adhesive plaister & laid
on the perinæum (this being previously shaved) to
prevent an excoriation from the counter extend-
ing handkerchief. 5th a silk handkerchief laid so
as to come under the perinæum. & obliquely
over the pelvis. to make the counter extens-
ion — The patient may then be laid on
his back. on the dressings laid down. 6th A
splint of the length of the thigh to be placed
on the anterior part of it 7th another hand-
kerchief to be placed round the hind part of the
ankle. & decussated at the top of the foot. but
below it & tied to make the extension. the
same precaution is necessary here as on the
perinæum. 8th a short splint to go on the
inside of the thigh. long enough to reach
from the perinæum to the foot 9th and

a

Fig 6



The long splint to reach from the axilla to within 6 or 8 inches below the foot. **A** the upper end excavated to fit easily in the axilla **B** the upper hole through which the counter extending bandage is to be passed. **C** the block over which the extending bandage passes; which should be so far down as to be a little below the bottom of the foot. **D** the hole through which one end of the extending bandage is passed & the other end to be carried round the end **E**. & when sufficient extension is made the two ends to be firmly tyed

These splints Fig. 5 & 6 should be made of wood

a long one which will reach from the axilla to about 5 or 6 inches below the foot, to go on the out side of the thigh. (Fig 6) The upper end of this splint is to be excavated like a crutch, which should be covered & stuffed so as to make it soft, & easy to the patient there are also to be two holes near its head. & one near the lower end, to hap the bandages through, that are to continue the extension & counter extension. a small block is to be attached to the splint a little above the lower hole, which will keep the foot in its natural situation when the extension is made — The extension & counter extension being made (which may be known when they are sufficiently so, by the deformity disappearing & the length of the limb being the same as the sound one) & the bones placed in their natural situation, the long splint previously wrapped in linnen, is now to be applied to keep up the extension by passing the counter extending bandage through the upper holes, & the extending bandage is to be passed over the block through the lower hole, & tightened so as to make the necessary extension, the counter extension may be made more exactly upwards, by passing a small roller round the anterior & posterior part of the counter extending handkerchief & continuing it round the sound limb as tight as necessary, & by that means drawing the roller exactly up from the perinæum. The other short splints are to be covered in the same manner, & applyed. Notwithstanding the splints are wrapped in linnen, there will be when they

are

are applied. some have cavities, which are to be filled up with 2 bags of chaff of the length of the leg & about 2/3 filled. that are to be laid between the splints & the leg. one on each side so as to fit nicely the unevenes of the leg. so as to keep it steady & easy. Chaff is preffered because it can be made to pass easily from one part of the bag to the other.

The short splint is now to be laid on the fore part of the thigh. It should be of pasteboard & exactly fit the thigh. The four pieces of tape are now to be applied round the thigh & splints. A very strong bandage is now to be passed round the long splint & round the body two or three times which prevents any motion. In this way counter-extension may be kept up. & the patient having many points to rest upon. by lying upon his back is much easier than in any other position. We should now examine the length of the limbs. if the fractured one be shorter increase the extension. but if it is not easily made, we should desist & gradually increase the extension. so that it shall not be any disagreeable to the patient. & in a few days the leg will be brought to its proper length. If the bandages get slack they should be tightened. The fractured limb should not be drawn so tight at first, that the ends of the bone come in contact. when the contractions of the muscles are violent. as it would cause great excoriation. But by keeping a moderate extension, for a few days, the muscles yield to the force & are easily overcome.

This method always proves successful so that the fractured limb is as long as the sound one, except in some cases of compound oblique fractures. When excoriation takes place they may be washed with a little brandy which is an excellent reme-

dy

*If frequently happens to females that the parts about the perinæum are excoriated by the irritation of the urine. This is prevented by making a bag of buckskin & filling it with wool, after which it should be boiled in linseed; this should be applied to the perinæum under the counter extending handkerchief before the extension is made. It is thus rendered impervious to the urine, which consequently readily flows

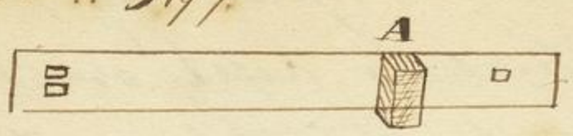
ay.* The heel often mortifies, & sloughs off, from the constant pressure that is kept on it, by being so constantly on the back. this is to be remedied by making a soft pad, & piercing its middle with a hole, over which the heel is to be placed, & treated as in other cases. ——

Sometimes the femur is broken near the head of the bone: or the head itself may be fractured within the ligament, or where the trochanter may also be broken, the patient is often sensible of the crack, the instant it happens, & cannot raise himself from the ground; nor walk, or stand; Tho' M^r Desault mentions 2 cases where the patient could walk. the foot turns inwards, & very seldom, tho' it is said sometimes to turn outwards, the surgeon can pretty readily extend the limb, if he be called in soon after the accident, but more force will be necessary if a considerable time have elapsed, & I have sometimes been obliged to bleed ad deliquium, the extremities being brought into contact, the crepitus may be perceived.

There is another circumstance, by which the extremities of the fracture may be found, place the fingers on the great trochanter, & then rotate the limb, if the neck of the limb be broken, the rotation will appear to be on the axis of the bone, or as if it revolved on a pivot, but if it be broken lower down, the trochanter will describe a much larger circle. The idea of the bone revolving on a pivot, is stronger the nearer the neck is fractured to the trochanter. When the bone is luxated, if sufficient extension is made to make both legs of an equal length, the bone will always be reduced. ——

ff

P. 40 ... Fig 7.



Depaults splint with the addition of the block A. at the lower end. this reaches from the shin of the Mann to 6 or 8 inches below the foot

If the limb be much inflamed we must decline.
Desaults splint (Fig 7) will answer equally well & perhaps
better in pactures of the cervix. than the one I have recom-
mended in pactures of the middle of the bone. — This
is made just long enough to reach from the middle of
the spine of the ilium to 6 or 8 inches below the foot. &
has two holes at its upper end & one at its lower,
for passing the extending & counter extending band-
ages through. The pactures of the cervix heal as soon
as any other part of the bone, unless when they occur
within the capsular ligament. & I have seen a pac-
ture of this kind that did not unite in 8 years. As we
cannot always ascertain exactly pactures of the up-
per part of the thigh, we should in all affections of
this kind apply the dressings already described. It
is right to inform the patient of the difficulty of
the union of pactures within the capsular ligament
or even in any part of the neck of the bone. Desault
say the dressings should be continued 35 or 60 days.
I may say. I have seen but one case of pacture of
the neck of the thigh bone. In this case the appa-
ratus was taken off at the expiration of 5 weeks,
but the union was yet very soft. the patient could
not walk for near a year. & still limps. This patient
was not old. & I think that only a sort of ligament
had formed between the divided extremities. In
any case thereforw we should continue the dressings,
acording to Desault. —

Contusions on the buttocks, may be mistaken for
pactures of the neck of the femur, they may gen-
erally be distinguished by the ~~length~~ of the limb
being the same. But in injuries of this kind the
pelvis is often put into such a position that
the limb on the injured side appears to reach
two

two inches lower than the sound one we should
thenfore always draw a string from one superior
anterior spinous proces, & if the illium to the other
if the string cross the pelvis obliquely, we may be
sure that it is displaced. it would thenfore always
be well to measure from the processes just mentio-
ned. Sometimes this bone is broken just above
the condyles. the lower pragment sloping o-
-bliquely upwards & backwards. When it is bro-
ken in this manner, & when the condyles are
separated, the crepitus can be felt by taking one
condyle in each hand, & rubbing them together;
in this case there is such a broad surface of
the pragments in contact, that there is not much
displacement or deformity, but the pragments
are often separated latterly. When it is broken tra-
nsversely splints, applied on each side are suf-
ficient. Defaults apparatus answers this pur-
pose very completely: a thick compress should
be laid under the leg to raise the lower prag-
ment. The leg should always be kept straight.
because if it should become stiff. this is the
most convenient position for the patient to
have it anchylosed. I never but one saw a
case of this kind & that was at the Hospi-
tal: but this was a compound fracture, commu-
nicating with the joint & the patient shortly died.
splints on each side are likewise sufficient.
Dr Hartshorn's method, which is sometimes
more useful than Defaults, & is certainly
a very ingenious one, has for its principal
object to make the extension & counter exten-
sion fall in a straight line with the limb

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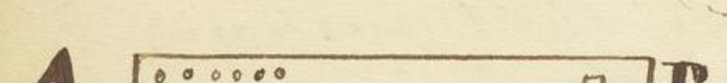
& thereby avoid displacement. by the extension, one advantage is. preventing the foot. turning outwards. another is that when the fracture is form an angle, it can by this manner of dressing be completely kept down by a compress. I am will perhaps think that a bandage in the usual manner might do, but it will be found insufficient. The chief use of bandages, next the thigh is to prevent the action of muscles. & may likewise give some lateral support.

The Bones of the Leg

are most frequently fractured about the middle. & when trans verse there is little or no displacement of the fragments, but if the bones are broken obliquely. the lower fragment passes behind the upper one. forming an angle anteriorly. The tibia is more frequently fractured than the fibula. They sometimes occur at the upper end, near the head. & sometimes just above the ankle. If one bone only is broken, the other keeps in its proper situation. & if it be the tibia, by grasping the limb above & below. & trying to bend the leg. the fracture may be ascertained. If it be transverse no displacement will take place. Sometimes in transverse fractures the patient is still able to walk, & it requires any careful & minute examination to determine whether there is a fracture, or only a contusion. but in general a pain may be felt, on the anterior part. & crepitus may be perceived & in almost all cases the patient points to some particular spot which is most painful. & which will be found to be the place of fracture. I once had a patient who had a transverse fracture. & after having his limb dressed, & being in bed 3 days. felt so easy as to suppose I had been mistaken. & that the limb had not been broken. the bandages were thereupon taken off. & the patient began to walk about the

the room. Being myself conpedient of the exis- 247
tence of a fracture, I requested him to let me
see him walk, he did so but the bone presently
bent under him, & he fell to the floor, & had
nearly converted it into a compound fracture.
In all cases, by taking hold above & below
the fracture & moving the limb, the crepitus may
be felt. When the fibula is broken the crepitus
may be felt by moving the foot, there is always
pain on motion, & the parts are so thinly covered
that pain can be generally felt ——

Treatment. The dressings should be laid on
the bed as follows 1st a piece of linnen in which
the outside splints may be rolled: 2nd a pillow,
3rd a row of bandages that will reach from the
knee to the ankle, & long enough to extend a little
more than round the leg 4th two pasteboard splints,
so that one will be on each side of the leg, these
should be previously wetted & fitted to the leg —
5 another row of bandages of the same extent.
The patient is now to be laid with his leg on a
pillow & dressings, & when sufficient extension &
counter extension are made & the fractured ends
are brought into contact, the upper row of band-
ages are to be applied, then the splints over these
& the other row of bandages, while the extension
is continued; we should now wrap two pieces
wooden splints, in the linnin for that purpose,
one being on the outside & one on the inside, hav-
ing the pillow between them & the leg, & are to be
secured by 2 tapes, one at the upper & the other
at the lower part — A bandage should be turned
to one side of the linnen in which the outside
splints are rolled & roped round the foot &



Two splints after this form one for the inside & one for the outside.
A is the upper & B the lower end

& secured to the other side to prevent it from falling outward & downward — A couple of hoops of a flour cask, with about one third cut out of each, & crossed in the middle at right angles, are to be placed over the fracture, to raise & support the bedclothes. ——— When the Tibia & Fibula are fractured transversely, this method answers very well, but if it is obliquely an angle will be formed anteriorly, & the leg will be shortened by the contraction of the muscles. In this case the counter extension is made by 2 pieces of tape, placed on the inside, & 2 on the outside of the leg, then a roller passed round them below the knee, so as to secure them in that situation: this should not be drawn tight or else the limb will be apt to swell, in consequence of the superficial veins being pressed. A silk handkerchief should be passed under the heel, brought on the top of the foot, decussated & carried below the foot & tied, to make the extension, a sufficient number of strip bandages, are to be placed under the limb, to reach from the ankle to the knee, & long enough to lay over each other, the extension & counter extension are now to be made, while the surgeon wraps the bandages round the limb. After having placed the bones in their proper situation a position—

Two splints with a number of holes, at the upper end & one at the lower end of each (Fig 6) are next to be placed one on each side; they must be long enough to reach from above the knee to below the foot: the tapes on each side of the leg, are to be passed, through the 2 small holes at the

the upper end of the splint & tied, while a bar is paped through the large one at the foot, below & pastened; the extending handkerchief is tied to this bar, by which means the extension is completely kept up. 2 bags of chaff are then to be paped between the leg & splints, one on each side, & the leg supported by a pillow ——— The greatest inconvenience resulting from this mode of treatment is the swelling of the leg, occasioned by the bandage round the knee — the foot to often swells in consequence of the lymphatics being preped, as well as the veins. This mode of treatment will not do when any considerable swelling or inflammation exists, as it will tend to increase it. But this method is very inconvenient in compound fractures as it can easily be opened, to examine the wound, & to apply dressings to it & the extension & counter-extension can be pursued when the fracture is oblique. in one instance of this kind of treatment, the limb swelled so much, that I was obliged to omit it and use Dessaults apparatus, which will answer very well, when we cannot apply the dressings just discribed. Sometimes the tibia is fractured near the knee joint.

In this case seldom any displacement occurs, but the joint is very apt to swell & is often difficult to cure. I have seen a case of this kind, where all the antiphlogistic remidies had been tried, as bleading purging & cupping, the application of leeches &c without benefit, which was cured simply by extension, counter-extension & the antiphlogistic regimen. The patient should be kept in bed for a long time, as union does not take place very soon. When they happen at the knee, the limb should not be used nor moved for 4 weeks, & the dressings shoud be continued 6 weeks & then moved but little, & very

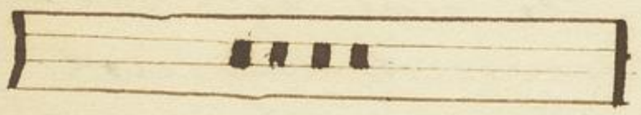
very carefully. in some instances it has been 4 or 5 months before complete union has taken place. When it is fractured at the ankle the same treatment is necessary —

The fibula is mostly fractured at the lower part near the ankle. but if it be broken by the blow, it may be fractured where the violence is applied. The fibula is sometimes broken by an abduction of the foot, & the foot likewise luxated. The reduction of the foot may likewise be accomplished, by grasping it & making extension. — In fractures of the bandages should not be tight, for the same reason as in the forearm. A splint is to be applied on each side of the leg to steady the foot, as the cure cannot be accomplished if it be allowed to move, because the lower fragment will follow the motion of the foot. in abot 40 days union will be effected.

Fractures of the **Patella** are commonly transverse, sometimes they are oblique. & I once saw one longitudinal. The transverse are commonly occasioned by violent action of the muscles, & the oblique, by external violence. When the patella is fractured the knee becomes tumified, & the superior fragment is drawn up, while the lower part is in its natural position. the patient, cannot go forward because he cannot extend his leg, but he can go backwards, drawing his leg after him, or sideways provided he keeps his foot on the ground to prevent it from bending. — When the leg is extended on the thigh the broken edges will sometimes come in contact & the crepitus may be felt. In longitudinal fractures, the ligaments are so thin, that the vacancy can be easily felt, & crepitus may be perceived, on rubbing the parts on each other. —

Treatment: In transverse fractures the patient is to be laid on a bed, & the leg raised sufficiently to relax the muscles, without elevating the body at all. This

Fig 9



* This splint should be made of 3 pieces of wood of equal size. which being united at their edges so as to form a trough. should have a piece of leather glued to their whole surface. it should be long enough to reach from the ischium to the heel. & the loops through which bandages may be passed. as recommended by Dr. Dorsey. N.B. This is a back view

will answer better than to raise the body as formerly. by locally depleting the part, & prevent too great inflammation &c. When this is done the fragments are to be brought close, apply a bandage from the foot to the knee, an assistant then holds the upper fragment down, while another bandage is rapped from the hip to the knee. The fragment being thus brought together, a compress is to be applied, above the upper fragment & another below the lower one & secured by a roller rapped round the knee nearly in the form of 8, beginning above the patella pap under the popples, over the tibia, & inferior compress, below the patella, & under the popples again, then over the knee joint & superior compress, & so on pursueing the same course, observing that no pieces of skin get in between the fragments, & be very carefull to draw them out if it should happen. The compress being secured, rap the bandage over the patella, so as to cover it, to prevent the soft parts from swelling while that from the foot prevents the lower, that from the thigh upper parts from swelling & counteracts the disposition of the muscles to contract, & keep the fragments in contact, To prevent flexion of the leg, a splint* reaching from the ischium nearly to the heel, is to be applyed, on the posterior part of the leg, it should be covered with flannel & secured by a roller, The splint should reach only to a little above the heel. — If the bandages on the upper fragment be too tight, it may cause an absorption of the cartilages & union take place between the patella & tibia, & under the joint anchylose, The bandages should never be applied tight, if much inflammation exist when the dressings become loose, the surgeon

should

should tighten them. Union will take place, in about 8 weeks. the bandages may be removed & very carefull flexion made in about 30 days, to prevent anchylosis, but the surgen should prep the two pigments together by pressing them towards each other with his fingers. In longitudenal fractures a compress is to be applyed on each side & the flexion secured. Sometimes the upper pragment is drawn up 3 or 4 inches. & a ligament is formed connecting the ends of the bones, to assist in the motion of the joint. Indeed we can seldom if ever bring the ends of the bones so close as to form a bony union. this ligamentous connexion although it has been supposed an imperfection in the animal economy, is a surprizing proof of the perfection thereof. for if a bony matter had been thrown out & completely effected, the knee would have been entirely stiff. but by the ligament being formed the patient may regain the perfect use of the limb. by gentle exercise of it daily.

The patient should sit on a table and swing his leg as much as possible. altho' he will acquire strength slowly, yet by perseverance the muscles will accomodate themselves to the length of the tendon & the patient will walk as well as ever.—

Sometimes some of the Metatarsal Bones are broken when this is the case a splint should be applied to the sole of the foot, with something interposed between the foot & the splint, to fit the inequalities of it; & it is absolutely necessary that the patient should be confined. to his bed till union has taken place & a roller should be lapped from the toes to the knee.———

DISLOCATIONS

When any bone forming a join is forced, out of its natural situation, it is said to be luxated. It occasions a good deal of pain, & causes considerable attraction in the shape of the limbs in general. if the surgeon is called in soon after the accident, it is easily reduced. & the greatest difficulty we have to contend with, is the contraction of the muscles: the ruptured capsular ligament makes but little resistance, except in certain circumstances. In order for the reduction the patient should be bled to weaken the contraction of the muscles whereby we will be able to overcome them more easily: in different cases I have found when the usual pail that the best method is to bleed ad deliquium. This completely destroys all muscular force. & experience has proved it to be the best method.—

This mode was first practised in this country by myself— When the patient will not submit to this a nauseating emetic, or an injection of tobacco smoke, or of an infusion of tobacco. have proved useful. when other remedies have failed. Boyer says that intoxication produces the same effect. & I do not doubt it. the muscular contraction continues to resist the reduction about 3 weeks, after which the muscles become accomodated to their situations. the bone begins to form adhesions. which, with the contractions of the capsular ligament. causes a considerable difficulty of replacement. so that it is often

often necessary to bleed ad deliquium animi. where luxations have existed more than a month. When we are force to reduce luxations, we should be careful to apply it only to the dislocated joints, & the limb should be in a relaxed state. — I shall now speak of particular luxations —

When **Luxations** of the **Lower Jaw**, occur, they take place upward & forward, so that the condyles rest on the tubercle of the os temporis; sometimes both & sometimes only one condyle is luxated. When one only is dislocated the jaw is turned to the sound side: when both are dislocated the mouth stands open, notwithstanding the efforts of the patient to the contrary. & the patient cannot swallow, this takes place when only one condyle is luxated. if you apply your finger at the place of luxation, or articulation the cavity may be felt. Luxation of the jaw from yawning, or opening the mouth sometimes occurs which cause great pain. — Some year since a woman in the market getting in a great passion & opening her mouth too wide, luxated both condyles, & to her great mortification could not close it again, & in this predicament, was brought 2 or 3 squares to me. to have them replaced which was easily done. A woman salivated for the dropsy had a great swelling of the tongue; when the swelling began to subside She gave them to understand that her jaw was luxated, which proved to be true. She was brought to me about 23 days after the accident. I pursued the usual mode of reduction. I then applied hooks to the molar teeth, to draw the jaw into its proper place, but without success; as she was dropsical I did not like to bleed her, ad deliquium. (which I should have done under other circumstances) — she readily consented to drink spirits till she

she became intoxicated, when it was readily reduced.

Treatment. In proceeding to reduce the lower jaw, we must take the precaution to wrap up our thumbs, very well to prevent the teeth injuring them, by the convulsive action of the muscles, the instant the reduction takes place. — They must be placed as far back as possible, on the molar teeth; & with the fingers under the chin, push the jaw downwards & backwards, at the same time squeezing the fingers upwards. If the fingers do not press the jaw downwards it will not be so easily accomplished if it is at all. — I have seen great force applied directly backwards without benefit. Some have advised to give a knock under the chin; this may sometimes succeed, but it is apt to break off the neck of the condyles. — No bandages are necessary after the reduction. ———

Luxations of the **Clavicle**, may happen at either of its extremities. I have never seen it occur at the sternum, tho I have no doubt it may readily take place there, if a considerable force be applied so as to push the shoulder forward & inward. & when it happens the patient is unable to move his arm. Luxations of the scapula may be occasioned, by the patient being thrown on the shoulder, so as to press it downwards. In both cases the treatment is the same as that of the fracture of this bone. When the scapular end is dislocated, the bandages must be continued a considerable time, or the shoulder will sink lower than natural, & form a tumor on its top. —

The **Humerus** is **Luxated** at the shoulder & occurs oftener than any other bone, owing to its great latitude of motion in all directions allowed by the glenoid cavity being so superficial. It is common-

by

by luxated downwards towards the axilla; & is
mostly occasioned by a fall on the shoulder. & I
have seen it luxated forward & inward & down-
ward a depression can be felt above the humer-
us, between it & the acromion procs. If you put
your finger in the axilla, the round head of the
humerus may be felt the patient cannot put his
elbow to his side, he cannot rotate his arm, or
raise his forearm to his head, which is mostly some-
what flexed. He commonly has an inclination
to rest his arm on something that will support
it. I have already told you how to distinguish
luxations & fractures of the humerus ———

Treatment. If the surgeon is called soon, there
is but little difficulty in replacing the bone, beause
the muscles do not begin to contract immediately. I
have reduced it by placing one hand on the acrom-
ion procs. to make the counter extension, & pulling
with the other to make the extension. To apply gra-
ter force it has been recommended to fix a couple
of rollers or tyes on the arm just above the elbow,
by means of a roller. then turn the other ends of
them down. But Mr Hays method I think is
preferable — when the arm is drawn out by an as-
sistant, & counter-extension made by another,
place your hands under the axilla & push upwa-
-ds. at the same time suddenly hurl your elbow
in towards the side. If by these means you
do not succeed bleed ad deliquium. If the pa-
tient be stong this can do no hurt, & if weak
then can be no necessity for it. this compleatly re-
moves muscular action, & the limb can be
reduced with ease ———

about

about 2 years since a man was admitted into the Pennsylvania Hospital with a dislocated humerus. the accident had happened about 3 or 4 weeks previous & the parts were so much swelled that he had to remain about 10 days before we could ascertain whether it was luxated or not. After trying all the usual methods. with no effect. I bled him till he fell on the floor. in a fainty fit. when the bone was reduced with great ease. & I have repeated this method with the same success. After a limb has been luxated more than 3 or 4 weeks. the muscles begin to accommodate themselves to their situations & form adhesions. The best method of reducing luxations after adhesions have formed. is by means of a compound tackle. Take 2 round towels & secure them in the middle. just above the elbow. by means of a roller. turn their upper halves down to their lower, & through their middle pass the rope to make the extension. another rope to secure the tackle is to be fastened to a firm place. To make the counter extension a long strap about an inch wide stuffed at the part which is to be applied to the shoulder with horsehair. or cotton must be applied against the acromion process. & the ends brought round the body in a contrary direction. & made fast to some fixed place. To prevent the strap falling off. & excoriating the shoulder, a thin or roller may be lapped round it. by which it may be kept in its place. To secure the thorax pass a wide strap or belt round the body. securing it with a buckle or otherwise,

to

to this have a rope which may be held by an assistant, to keep the body in its place. Then fix- ed draw the rope to make the extension, & take care that the counter extension be made against the acromion process. In making the extension the arm should be rotated to separate the adhesions which may have formed. The surgeon may have a towel under the patient's arm, & over his shoulders to draw the arm up, or he may put his arm in the axilla, & hook the pa- tients elbow downwards, with the other hand using the humerus as a lever. The bone has been kept in the axilla for 6 or for 9 weeks, & been replaced, for it is possible to displace a bone surrounded by a firm capsular ligament, from a natural to an un- natural, & it is as possible to bring it from an unnatural to a natural one. But when the bone cannot be reduced we need not despair alto- gether, as a great many useful motions may still be performed. I knew a cabinet maker whose arm was dislocated, & yet he was able to per- form his trade, & the only motion he could not perform was drawing his arm directly upwards, I shall not pretend to describe all the motions that have been invented, for reducing luxations, but only a few of them.

It has been supposed that a staple fixed in the ceiling of the room, & the patient suspended from it with his arm, would be productive of good effects. But it would endanger tearing the arm from the chest, as no counter extension could be made against the scapula or acromion. — Another method is grasping the arm for making extension (the patient lying down,) then place the foot in the axilla to make the counter extension. & when

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you make the extension. keep the arm tow-
ard the side, & your foot will thrust the bone in
its proper place. I saw Mr Hunter do this very suc-
cessfully. some advise hanging with the arm over
a ladder, but none of these methods are very good.

The Forearm is Luxated upwards & backwards,
forming a protuberance behind the arm, & is
kept moderately flexed, sometimes it is luxated
laterally, the covering of the parts are so thin, that
the surgeon can readily ascertain the nature of the
case the patient cannot flex or extend his arm,
the coronoid process of the ulna, fills up the cavity
naturally for the olecranon. & this is what prevents the
reduction. When the articulation is much swelled
we may distinguish it from a simple tumor of the
part, by very carefully measuring the length of
the arms. when it be a luxation upwards &
backwards, the diseased arm will be the shortest, but
not so if it be a simple tumor. When the bones
are reduced the patient can immediately flex &
extend his arm. — follows (a very strong exhortation
to pay attention to the elbow joint)

Treatment, in order to reduce a luxation up-
wards & backwards, an assistant should take
hold just above the elbow, & another just above
the wrist to make extension. the surgeon is to
take hold just below the elbow, & at the same time
pull directly backwards, to draw the coronoid pro-
cess from off the humerus, when the arm is possi-
bly enough extended, bend it towards the body, whi-
ch will in most instances be sufficient to complete
the reduction, when it luxated laterly. the surgeon
should press it into its proper place, which he will
know how to do by his knowledge of the anatomy of the
part

I had a case of this kind in a lady which was not very much displaced, but which was of very difficult reduction. I pushed & bent it about in a variety of directions, but without effect, at last when I began to despair of reducing it, the bone accidentally slipped into its proper place, but I do not claim any credit for reducing it on any premeditated plan for I actually do not know how it happened, but when every other method has failed, I would not hesitate to introduce a couching needle through the integuments & divide the lateral ligaments of the joint on each side, or even to lay it bare & divide it with a scalpel, when I doubt not but that it would be easily reduced, as those strong ligaments form the principle obstruction.

Luxation of the Wrist takes place forward & backward. It is easily reduced by making the proper extension, & keeping the bones at the same time into their place. bandages should be rapped round the elbow & wrist

The Fingers are Luxated backward & expunards. This may be known by the fingers being somewhat bent & the patient being incapable of flexing & extending them. But as soon as they are reduced he can bend & straighten them. Extension & bending them will commonly reduce these luxations—

When the **Thumb is Dislocated** at the 2nd phalanx, it is most difficult of reduction of any bone of the body, extension has been applied so as to tear off the first phalanx & yet not reduce the bone.*

Luxation of the Of Femoris — It was formerly supposed by some not to occur often on account of the amazing strength of the capsular ligament & great depth of the acetabulum, which was computed to be sufficient to bear 1000 lbs. just that the neck of the bone would be broken. I have however seen more luxations of the thigh at the hips, than I ever saw fractures of the neck of this bone. It is generally luxated so that the head of the bone rapes backwards, lodging on the foramen illii. & sometimes downward & forward into the foramen ovale: It may also be luxated immediately backwards, or outwards. When luxated upwards the limb is commonly about 1½ inches shorter than usual: if a bruise have taken place about the pelvis, it may influence the length of the limb, by causing the pelvis to be drawn to one side. To ascertain if the pelvis be straight, draw a string from one superior anterior spinous process illii to the other: if it cut the pel-

vis

vis at right angles & is straight, then measure from this troch to the knee, to ascertain the length of the limb. It is necessary to know if the pelvis be straight, before we can ascertain the existance of a luxation. If the joint be only injured the injured limb will be longest. When the luxation is upwards & backwards, the toes will turn inwards & turning them outwards causes great pain. If the patient cannot move the limb, & all the other symptoms be wanting, this is enough to ascertain a luxation upwards & backwards. It is by no means difficult in ordinary cases to distinguish between luxation & fracture of the head of the femur, I mentioned the difference when speaking of fractures. When the bone is luxated no crepitus is felt, & when the cervix is fractured the foot always turns out. & is easily turned inward, but if it be luxated upwards & backwards, the foot cannot be turned out at all or not without great pain, & in all cases of luxation. The limb is not easily moved, & when it is done it causes great pain, but in fractures it is easily moved. & when drawn to its proper length & the extension removed, it returns again, but if luxation, when drawn to its natural length, it will be reduced, & does not become shorter again. — When it is luxated downwards & forwards, it is mostly lengthened about an inch, & the foot is turned outwards, & turning it causes great pain. The distance between the superior & anterior spinious procs. & trochanter major is greater. — When the bone is luxated forward & upwards on the os pubis, it is a little shorter. This is a very rare occurence; only one case is mentioned by Desault. in this case the foot turned outwards. —

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* This can be very well done by hapsing a strap round the thigh close to the perinaum, & an assistant getting on the table, & the patient lying on his sound side, the assistant makes the extension directly upwards with the strap, & applies his knee or foot with his shoe off on the cuta illii, to make counter extension. & by this means the surgeon will be enabled to use the pumel, as a lever the more effectually to raise the ends of the femur over the high bone of the ilium ——

* For the method of reducing luxations directly forwards See a case in Coxe's Med. Museum. Vol: 1. page 8 communicated by D. D. S. Physick, ——

The Treatment is nearly the same in all cases, that is extension & counter extension: As the brim of the acetabulum is large, an apparatus to dislodge the head of the bone & pull it straight from the body* & making the extension & counter extension in a right line with the body, is required. In luxations of the head of the femur, it is necessary to use considerable force to reduce it, & the best method is by compound pullies, when they can be had; but it can be reduced by the assistance of men, & one advantage is that they can exert at any instant required; in obstinate cases, however, where much force is necessary the pullies are mostly used. — When the luxation is upward & backward, the patient is to be laid on his sound side, & the limb bended at the hip & knee, to relax the muscles: & a strap for the purpose of making counter extension is to be passed over the perinaeum, & between the scrotum & injured thigh, (having some soft substance between it and the perinaeum) & fastened to a fixed body — Two strong round towels are next to be applied, one on each side just above the knee, & secured by a roller to make extension. If here cannot always be fastened above in fat persons, they may then be secured below the knee, but it is best to confine the extending power to the luxated bone. A pully fixed to the towels can make the extension with great force: during the extension the surgeon must rotate the bone to detach its head, if this is insufficient bleed ad deliquium. When the head is luxated into the foramen ovale, or forwards, make the usual extension, & counter extension, in a line with the limb & at the same time, it is absolutely necessary to make it outwards, at right angles with the body* To effect this the patient lying on his sound side on a table, has a strong towel between the thighs close to the perinaeum, an assistant is to get on the table & take the towel over his shoulders & pull outwards, while his knee is placed on the crista illei, to make the counter

ex.

* In cases of luxation the dislocated limb is sometimes longer than the sound one immediately after the reduction, & might mislead the young practitioner who is not aware of this circumstance. ——

extension: meanwhile the surgeon rotates the limb. if this is insufficient to draw the head of the bone out of its situation, fix a pully to the towel, & pass a strong bandage round the groin, & fasten it to a staple. When the head of the bone is on the pubis, the surgeon should bend the leg at the knee, & grasping the limb below it, rotate it while the expansion is making. — Desault thought that the contraction of the capsular ligament must prevent reduction; but I believe that almost the only cause of resistance, in reducing luxation, is the contraction of muscles: for the same orifice in the capsular ligament, that suffered the head of the bone to escape out of it, would also let it return. I never saw but one case of luxation directly backward, the head of the bone probably passed through the laceration of the capsular ligament, & the neck of the bone was embraced by it, as a button hole holds the button. — Extension did no good: I bent the leg up to the belly & then abducted it with considerable force & then by striking with the palm of the hand on the trochanter major directly upward, it slipped into the acetabulum with the greatest facility imaginable. If the bone is not reduced, it will form a new socket for itself. The proof of this instanced in a girl, who fell & hurt her hip very much, so that she kept her bed several weeks, when the swelling that supervened had subsided, her hip was found to be luxated; sometime after she began to go about again. She fell & hurt the other hip, when she recovered from the fall she found that her legs were nearly of an equal length, contrary to what they were before, & after she had acquired more strength she was enabled to walk on crutches, & gained strength in her hips every day. Shortly after she was taken sick & died, the hips were dissected, & both found luxated, new acetabula were formed on both sides, which no doubt would have done very well had she lived.

Luxations of the Knee Joint

occur very rarely

rare

* The luxation of the ankle may be either forward or backward, When it is forward the foot must be kept extended, the heel projects farther back than usual, while the foot appear much shorter, But if it be backward the very reverse of all this takes place & in both cases the patient cannot move his foot

§ If the limb can be moved by the surgeon or patient in different directions

rarely. The tibia is generally rieved on the external condyle. The leg is much distorted. It is easily reduced but is not so easily kept in its place. Desaults long splint answers very well. for keeping the bones in their proper situation. After they are reduced the patient should keep his leg in perfect quiet. in bed for 8 or 10 weeks until the extended ligaments are perfectly healed — — —

Luxations of the **Patella** very seldom occur. I have never seen but one instance, which was in a young lady caused by dancing: the patella had slipped over the external condyle, & could be felt there while the joint was very much distorted: by extending the leg & pressing the under side of the patella upwards & inwards, it easily slipped into its place. the limb should then be kept at rest for 8 or 10 days

Luxations of the **Ankle** rarely occurs. — A lady with half heel shoes on was coming down stairs & stepped too far, so that the heel of her shoe only rested on the step, the weight of the body bending the heel back, forced the tibia forward, off the astragalus on to the instep, in consequence of which the leg was kept extended, & the malleolus was broken: I was not called till swelling & inflamation had appeared, & I could not exactly ascertain what was the matter. She was bled & in about 3 days the inflammation & swelling subsided, & I discovered the nature of the injury. It was reduced by an assistant holding the tibia, while I caught hold of the heel & toes & pulled the foot forward, & a splint was applied for the fractured malleolus.*

For the treatment of **Sprains** I refer you to Bayer — The joint should be immersed in cold water sometime, or cold water should be poured over it, after which cloths wet with vinegar should be applied & continued some days, & kept at perfect rest during the whole time, for if the patient walk he is sure to induce inflam-

mation

mation, if it is too soon, the limb should not be used 'till it feel quite or nearly as strong as ever, & it will be dangerous to apply cold water if the patien be menstruating, or liable to spasmodic affections of the breast. If the patient exercise the limb, suppuration, & hectic fever may come on, this actually occured in one case of a lady, the patient refused to have the leg amputed, & death closed the scene. Caries of the end of the bone sometimes takes place, & amputation is necessary for the recovery of the patient

Injuries of the Head

may be divided into external & internal, external as they affect the scalp & integuments, & internal as they affect the brain & its membranes — They are of several kinds 1st. Contusion, 2nd Punctures 3rd. Inflammation of the brane & 4th Concussion. I shall begin first with the scalp. — The injuries done to the scalp are several & first of Contusions, when this occurs with a rupture of the vessels, they pour out their fluid forming a tumor, & swelling which has a happy feel, around this tumor there are hard edges which impart to the fingers the feel of a broken bone, which misleads the inexperienced who are not aware of it, & inducing them to make incisions through the scalp, when they find the bone sound, & thus produce a disagreeable & suppurating sore & perhaps exfoliation of the bone. The best **Treatment** is the application of vinegar in compresses to the part, & in a few days extravisated blood will be absorbed.

The scalp is sometimes Lacerated and torn from the bone for some extent, & under such circumstances it has been advised, to cut off the loose portions but it should never be done, the part should be well cleaned from dirt &c, & the flap placed in its natural situation, & kept so by adhesive plaisters & sutures. It has been objected to this, that abscesses

would

would form, & the loose part have to be removed at last: if they do form they must be opened as in other parts. But it is better to risk a few small abscesses, than to produce so great a deformity & exfoliation.

2nd Punctured Wounds the patient is often affected with great pain especially if the aponeurosis be wounded. If inflammation extend to the periosteum it is necessary to dilate the wounds, as the patient becomes feverish. I have seen inflammation & occur in every kind of wounds except incised. It has been supposed to occasion inflammation of the brain, & therefore trepanning has been advised, but I believe that this does not occur when the injury is confined to the outside, for it is scarcely probable that the two sides of a cavity will become so violently inflamed at the same time. When in violent inflammation of the callous coat of the stomach, the peritoneal one is scarcely ever inflamed & vice versa.

Besides these affections there are other effects from injuries of the scalp, which is a severe fixed pain in the part that takes place from the time of the accident. I have seen contusions of the scalp which created great pain & continued a long time. The first case of this kind I ever saw was a lady who had received an injury over the parietal bone, from the falling of a sash which occasioned great pain: The inflammation subsided in a few days, but the pain continued. She used evacuents without any benefit. When I first examined the wound I thought the bone was fractured; but on further examination it was found to be only bruised. I moved an incision which was made thro' the scalp the pain immediately ceased & never returned.

A young man received an injury of the scalp on the parietal bone of one side & at the same time received a blow upon the other, great pain followed it which was increased. On the 2nd day the pain was so great, that his friends had to hold his

head

head to prevent the ordinary soundness made by walking across the floor &c. throwing him into convulsions. Evacuations were used but with no effect, an incision was made through the scalp in the contused wound, by which he was much relieved, but the pain returned in half an hour on the other side, when the bruise was also laid open in the same manner, & the pain never returned. Some cases of this kind have resisted every treatment, & subsided only on returning to & remaining sometime in the country ——

Injuries of the Brain & its Membranes. 1st **Compression**. When this happens, Coma, sickness of stomach, vomiting, involuntary discharge of urine & feces & loss of voluntary motion occur, The cause that produce this are of two kinds, first indentations of the scull. 2nd effusions of any kind of fluid within the cranium, either between the membranes & the scull, in the substance of the brain itself, or in the ventricles, & this may happen with or without a fracture of the cranium, The second kind of causes are much the most numerous — Fractures of the cranium sometimes occur, without any of the unusual symptoms, even when the bone is depressed, There was an instance of this in the forehead, so that the little finger might lay in the indentation, & yet there was no symptom of any injury, but in all the cases of this kind that I have seen, the injury has been over the frontal sinuses. When no symptoms of compressed brain appear the scalp should not be divided, but when they do occur, make an incision through the scalp, so that you can examine the bone. (if there is not already a sufficient large opening). & if necessary relieve the compression with the trephine, It has been customary to cut off a portion of the scalp, but it is cruel & it is of no use,

as

as a simple or crucial incision, is always sufficient to examine the state of the bone. If a fracture be found it is safest to make a perforation through the bone to relieve the dura mater; in compression arising from effusion the symptoms of compression do not always immediately occur, because the effusion is not always immediate. I was once called to visit a boy who had received a blow on the forehead from a stone, the bone was fractured & a little depressed; the pain was not so great at first, but that he went home & gave a history of the accident; but before I arrived he was severely attacked, & fell from his chair, & was supposed to be dead, his pulse fell & his extremities were cold. the operation of trepanning was performed, blood exuded from beneath the scull, which had occasioned the compression & he was immediately relieved. Intoxication will often produce symptoms of a compression of the brain. they may however be discovered by smelling of the breath of the patient. & when we suspect this to be the case we should always wait till the effects of the liquor would have time to pass off. — (a case related of this kind)

Inflammation of the Brain & its membranes, does not come on for some time after the accident producing it —

Symptoms, the patient cannot sleep, has constant watchfulness, pulse hard & tense, the face is turgid & flushed, a sense of tightness as if a chord was tied round the brain, thirst, suffusion of the eyes, delirium, nausea, vomiting &c. —

If these symptoms continue for some days, without any abatement, or rather increase than decrease; & if they are occasioned by contusions of the scalp, a free incision should be made down to the bone, to examine the state of the parts, if the inflammation within the scull

have

has proceeded to suppuration, the pericranium will be found separated, spontaneously from the scull, & discharge, very commonly a thin ichorous matter, the bone will have an unhealthy appearance, generally of a whitish milk colour? but sometimes of a purple tinge, & the patient will be effected with frequent rigors. Under such circumstances the trepan should be immediately applied. Inflammation of the brane may occur from contusion of the scalp or concussion of the brain.

For Contusions of the Scalps apply a bread & milk poultice, & if an abscess form underneath treat it as in any other place. In all cases low diet should be strictly adhered to. To prevent inflammation of the brain, or any of its membranes, Copious venesection, & purging should be used. Blisters should be applied all over the head & kept running. When we have reason to believe, there is a formation of matter, on the surface of the dura mater, between it & the scull, an opening should be made through the bone for its discharge. Sometimes both the dura & pia mater are injured. When it is the last a perforation is of no use, as the matter collected below the dura mater cannot be evacuated. When there is reason to suppose the inflammation of Dura & pia mater, have taken place from contused wounds, the patient should be trepanned at the place of injury, which by removing the tension of the inflamed membranes, may prevent suppuration, & a train of disagreeable symptoms.

When a Fracture of the Scull has happened from a great degree of violence, we sometimes find the edges of the fracture in contact, a question has thence arisen, whether we should trepan the patient or not

Mr. Pott who has taken great pains to in- 293
form himself of the nature of injuries of the
head, is of opinion that it had better be done
immediately. & this is certainly the safest be-
cause, there is a great risk of inflammation,
& suppuration taking place, another induce-
ment is, that the fracture is compound, for
if it was not we could not ascertain that the
edges were in contact. this makes it necessary, but
when the inflammation was not great, I have seen suppu-
ration of the duramater avoided, by the antiphlogistic
regimen. In simple fractures of the cranium, when
the brain is not compressed, the trephine should not
be applied immediately. In all injuries of the cranium
we should employ vomits, purges, venesection, a
low diet, & in fact a strict antiph. Regimen to prevent inflamm.—

Concussion, sometimes produces the symptoms of
compression, in other cases it does not. It may occur
from jumping from a height on a hard floor, from
falls, a violence done to the head. In wounds of the
scalp when the patient becomes immediately sense-
less, or delirious, beginning a sentence, & suddenly
breaking it off in the middle, it has been supposed
that the bone is shaken, but I doubt whether some of
the vessels of the cranium are not ruptured. On exam-
ination in some cases, where the brain was suppo-
sed to be compressed; I have found the vessels ruptur-
ed & in other cases I have not — In these cases no
benefit is derived from trepanning. General reme-
dies should be used, such as the antiphlogistic plan.
bene. sect. low diet blisters &c. & if there fail Mercury, so
as to excite a ptyalism. Stimulants should be avoided.
As a general rule I believe it would be right, in con-

tusions

tuions to pour cold water over the head some time, by which means, the effusion will in a great degree be prevented. — I would recommend that you all read not on injuries of the head. ——

I will now describe the mode of operating with the trephine. First remove the hair by which we shall be able to examine the injury of the scalp, next make an incision through the scalp, for which purpose a scalpel, the handle of which is capped with iron, & let a piece of iron like a screw driver project a little in order to clear the bone will be found better. In laying the bone bare, take notice whether it be fractured, or whether ~~it is otherwise~~ a groove made by some of the vessels, do not appear: if it be the latter the edges will be smooth, if the former sharp. If the bone be depressed, it must be elevated by trepanning: the center point of the trephine must be placed on a sound part, or it will tend to depress it more: When we have penetrated some depth we should be careful to remove the centre pin, so that it may not perforate the dura mater. ——

When you suppose you have nearly perforated the bone, the hole should be well cleared out, to examine if any place is nearly cut through, for this purpose a common tooth-pick answers very well; you may likewise have recourse to your elevator, & by if you can raise the enclosed piece, (this should often be done towards the last) If you find it nearly thro' on one side, lean your instrument to the other: It is best to pare the piece out, with the elevator, before it is quite cut through as then will then be less danger of injuring the dura mater. & any spicula of remaining bone may be broken off with the elevator. — A saw may be used after the trephine, where long depressions of bone require it, because to use the trephine again would remove too much of the sound parts of the scull. When symptoms of

extrav.

extravasation, within the cranium occur from external 297
injury, a perforation should be made through the scull
to evacuate the effusion. When blood is collected be-
tween the dura mater & scull, a hole may be made,
to let it out. Sometimes the effusion is small, at
other times it is of great extent, & the dura mater lying
close to the perforation prevents its escape, a spatula
introduced between the dura mater & scull, will suf-
fer the blood to flow out, Sometimes an effusion hap-
pens, & upon removing the bone, instead of a flat surface,
a convex one is presented, sometimes rising up, so
as to fill the opening, but no motion of the brain
will be perceived. There are not symptoms of ex-
travasation between the lobes of the brain, for if this
was the case the motion of the brain could be perceived.
I have never seen the duramater punctured &
the patient recover: therefore when it can, it should be
avoided. I have cured an effusion in the brain by
the antiphlogistic regimen, & bleeding 4 or 5 times
a day, ad deliquium animi, for 5 days, which I be-
lieve would not have been the case, had the dura
Mater been punctured: When this operation is per-
formed a pungus rises from the wound, suppura-
tion takes place at its root, & the patient dies. —

After the operation of trepanning is gone through,
bring the edges of the scalp within an eighth of an
inch in contact, & then apply a poultice of bread &
milk, which is the easiest application, lint is not a
good dressing, nor should any greasy applications be
made, as they would prevent the discharge of mat-
ter, the poultice should be continued till granu-
lations appear, & then dress it with simple cerate.
The trepanning in this case, only relieves the com-
pression of the brain, this done we must guard against
inflammation, by bleeding, cathartics, low diet &c.

The

The antiphlogistic plan should be pursued in, 299
while any symptoms of coma continues: & in aspersion of the bone. the edges of the divided scalp, where the brain is completely relieved by evacuation, may be drawn together to unite by the first intention, as it will take a much longer time to heal, if it be poulticed, & suppurate. In all injuries of the head, we should be very careful, not to make any stimulating applications, as they would tend to increase the disease, it may however be right to apply warm water to the extremeties, while they remain cold ——— ———

Diseases of the Eyes In inflammation of the eyes, either the whole, or a part may be affected, either in the tunica conjunctiva, or in the globe of the eye, in the anterior or posterior chamber, inflammation of the eyelids sometimes causes an extravisation of serum into the cellular texture, swelling the part very much, so that the patient cannot open his eyes, the skin becomes of a scarlet colour, this frequently comes on in the night, the patient supposing it to arise from the bite of an insect, it is not however easy to ascertain the cause unless when it arises from mechanical violence. ——— ———

Treatment in general if there be much inflammation, bloodletting should be used, which with the exhibition of a mercurial purge, & a low diet, will usually answer the purpose, if this is insufficient. the application of camphor or brandy may be tried, the best way of doing this, is to dip rags into them, wring them out & apply them over the eyes, The discharge of fluids, in most cases of inflammation of the eyelids, is but small, sometimes the edges

of the cyliar become excoriated. & discharge a acrid purulent matter. agglutinating the eyelids. so that the patient has to wash them in the morning before he can open them. The general opinion is. That is owing to an ulceration of the mouths of the ducts of the Glandulae Meibomii. I however believe it to be owing to ulceration seated at the roots of the hairs. resembling in this respect. tenia capitis. a proof of the correctness of this opinion is. that the hairs have been drawn out & the patient got well. ——

Treatment. A solution of lapis Infernalis has been advised. taking care to wash it off afterwards. so that none of it may get into the eye. this is a harsh remedy. spermaceti has been used with advantage. The most general remedy is a solution of sach. Sat. or unguentum Citrinum. I have however found that the ung. epici. applied between the edges of the lids. is the best remedy. when this fails drawing out the hairs is useful. A girl about 10 years old was cured by this ointment in about 2 weeks. She had been affected with inflammation & ulceration & suppuration of the eyelids for 9 years ——

When the Tunica Conjunctiva is inflammed & becomes red. owing to the increased vital action of the vessels. which were before pellucid. but now admit red blood the eye waters exceedingly. The patient cannot bear the action of the light the pain is of a burning kind. causing a sensation of extraneous matter. in some instances. the pain is not confined to the eye. but affects the forehead: sometimes the inflammation is in pimple or speck. which

may be situated on the adnata or cornea. the only difference in their effects is, that if it be situated in the latter place it destroys vision. Inflammation of the conjunctiva often spreads over the whole cornea, throwing out coagulable lymph. & if not soon cured leaves a film behind it obstructing the sight of the patient. & the simple first mentioned, if not soon cured leaves an opaque speck behind. the inflammation of the corner of the eye, causes an extravasation of coagulable lymph, causing the disease called Unguis —

The Injuries done to the Eye which occasion inflammation, are 1st Mechanical as wounds, sand getting into the eye, scobiaris &c 2nd Acrid substances, applied to the eyes, as lime, acids, smoke &c. the use of these often occasions blindness: 3rd too strong light: 4th too much exercise of the eye in viewing minute objects: 5th Cold 6th Intoxication, 7th Small pox, lues &c. Inflammation often occurs without our being able to assign any reason for it. Inflammation of the eyes is sometimes produced by the matter of gonorrhoea being applied to them, this is a rare occurrence, but when it proceeds from this cause it is mostly very fatal — — —

Inflammation of the Globe of the Eye may occur either before or behind the chrystalline Len; it is attended with great sensibility, pain & fever, when it is in the anterior chamber of the eye, there is not so much pain as when it occurs in the posterior chamber, the fever runs very high, & generally if it be not soon removed, the sight is lost. The first case of this kind that I ever saw the patient died —

The

The first thing to be done in the treatment is to remove all mechanical violence. & avoid the remote cause, if it be produced by some extraneous matter getting between the lids & eye, it must be wiped out, a piece of soft rag wrapped round a probe, & kaped between the lids will mostly disengage it. should this be unsuccessful, water may be injected into the eye; if it still remain, by inverting the eyelid we are enabled to examine it, & move away the irritating substances, if it stick in the corner of the eye. it will not be easy to see it as the eye will roll about incessantly, & cannot be held still by the patient, a speculum or the handle of a pair of scissors will enable us to hold it quiet, so that we can examine it & move away the offending object with the point of a lancet.— In trichiasis inflammation occurs, from the hair of the lid growing inwards, when this is the case pulling them out produces a cure, But the tarsus itself is sometimes turned inwards, it may be turned out & divided, or a piece of the skin of the lid may be turned outwards & divided or cut out, taking care not to divide the conjunctiva, & the divided edges brought into contact, & kept so by the interrupted suture. When this does not answer we may entirely cut away the tarsus, this will not occasion as much deformity as an inflamed eye, that is constantly shedding tears, & has been performed with complete success by Dr Dorsey, We can generally cure inflammation by bleeding, which should be regulated by the fever & inflammation, When the patient has lost a considerable quantity of blood from the arm, he can bear cupping & leeches; if the inflammation still continue there is another mode, which is very beneficial,

Viz

Viz. scarifications of the edges of the cornea.
The next remedy is purging. antimonials are very useful & mercurial ones are still better, & we may make applications to the eyes the mildest should be first used, such as the decoction of the pith of sarapan. sometimes bread & milk poultices answer very well. but it is often too heavy, a crumb of stale bread, put in a gauze bag, boiled & then dipped in rose water. applied to the eyes, is found to be very pleasant. if this does not answer Laud. or Sac. Sat. Vit. Ol. & Laud combined in their usual proportion, astringents should not be used too soon: they do harm if applied before the proper evacuations have been premised: in such cases I think ℥j of vinegar greatly improves the remedy. When the inflammation has gone on to suppuration, & matter has collected under the cornea, it should be immediately discharged. by an incision made in the same manner. as for cataract, instead of allowing it to open by the natural process of ulceration, which would render the cornea opaque. When these remedies fail, mercury used so as to create ptyalism, has often proved useful. The other circumstances are of the highest importance, 1st confining a patient to a dark room, & 2nd a diet perfectly vegitable. A ligature in the neck, may serve to declare the inflammation. — — —

Unguis. This is a speck on the eye that often spreads & obstructs vision, it sometimes grows over the cornea & obstructs vision only. The only remedy is to dissect off the membrane, which is easily done with scissars, except that part which adheres to the cornea, this should be carefully dissected off with a sharp knife

I have already said, that inflammation sometimes produces an opacity of the cornea, which al-

most

most always remains, but it sometimes goes off voluntarily if left to itself. Mistaken notions of the nature & cure of their cases have led Physicians into very erroneous practices: molasses has been dropped into the eye, & finely powdered glass has been used with a view to wear it off, but they only make it worse. If any part of the cornea remains transparent, an operation may possibly restore vision, by making an artificial pupil. I once saw a case where a patient washed his eyes with his urine while labouring under a Gonorhoea, inflammation supervened & all the cornea became opaque. the patient applyed to me for relief, & by his anxious request I consented to operate on his eye, tho' with little hope. I pierced the knife thro' the cornea & cut off a little of the iris, the eye was then closed & the patient put to bed - he can now see to read if the print be large. I never saw such an operation before. When the eyes are violently inflamed it is difficult to remove the inflammation, I once had a case of violent inflammation of the eyes, & the patient laboured under great pain, in which bleeding, low diet, salivation &c. had been used without success. cupping & scarification was also useless, he was cured by wetting rags in tarwater & laying them over the eyes. ——

Fistula Lachrymalis cannot possibly be cured without a knowledge of anatomy. The tears which are secreted by the lachrymal glands, & are used to lubricate the eyes, are taken up by the puncta lachrymalia & carried to the lachrymal sack, from whence they are conveyed to the nose, just at the lower turbinated bone by means of the ductus ad nasi, these ducts are liable to stictures. When they are stopped by any means they become

swelled

swelled between the obstruction & the eyes. tears form in the eye, & the sack is protruded. if you press on the swelling tears regurgitate. & if the pressure be increased, the tear will be followed by a viscid matter, resembling mucus, which is probably secreted by the inner surface of the sack. If the eyelids stick together, they must be washed & a piece of soft sponge placed between them. — Not unfrequently inflammation takes place in the sack, occasioned by the obstruction of tears, or from the patient taking cold. The inflammation is generally attended with fever, bloodletting & low diet are necessary for the cure. — When the sack is distended so as to burst in the eye or open by ulceration, it is then called fistula Lachrymalis, in this disease occuring from stricture of the lachrymal duct, no inconvenience is experienced by the patient, only by that arising from the tumor, which may easily be removed by placing the finger on the internal canthus of the eye, & pressing the sack, the tears will flow out down the cheek, the accumulation of tears in the lachrymal sack, occasions the tears to terminate in suppuration. ———

Treatment. If the duct can be opened by a probe passed from the sack, below the stricture, so as to let the tears flow into the nose, it should be done, the probe is to be passed by making an incision through the integuments into the lachrymal sack, & introducing the probe, & continuing down in the direction of the duct. after the probe is withdrawn, a piece of bougie, long enough to reach from the outside of the eye to the nose, should be introduced & kept in, to prevent the stricture from closing the passage again. the bougie should be long enough

to

to project about half an inch. which should be
bent down over the cheek. when the duct cannot
be opened. we must make an opening through
the os. Unguis. into the nose for the discharge of
the tears. — It sometimes happens. that the frac-
tured edges of the bone. which are made by hunc-
turing the os unguis. throw out a bony matter
& stop up the opening. The following is the
method of operating. when we make an open-
ing through the integuments to introduce the
punch. the back of the knife should be uppermost.
to prevent cutting the tendon of the orbicularis palpebræ.
the incision being made a horn is to be passed up
the nose. to make the necessary resistance against
the puncturing instrument, which is a hollow
punch invented by Mr Hunter. It is to be intro-
duced into the incision. till it comes in contact
with the os Unguis. thro' which the opening is to be
made. When the aperture is made in this way
the use of a bougie is not necessary. If it is sometimes
attended with fungus & caries of the bone. the cari-
ous portion should be extracted & the fungus treated
as in any other part. Bring the edges of the wound
in contact & secure them. with adhesive plaister.
& the tears will flow through their newly made chan-
nel without difficulty

By **Cataract** is meant an opacity of the Chrys-
talline lens. or its capsule. which prevents a trans-
mition of light to the ~~retina~~. It shows itself by a
speck behind the pupil. & is commonly grey. some
times black. & I have seen it of an amber colour. It
commences with a dimness of vision. compared by
patients to looking through gauze. & sometimes
before any opacity is discernable by looking into
the eye. there is to the patients a appearance of

mots

moats. threads. or hair floating in the air before him.— The disease seldom occurs in very young people. mostly about the age of 40. but I have seen it in an infant. It often comes on without any external violence. I have seen on case follow a blow & another tuchiaris. A long list of medicines have been employed for the cure of ~~cataract~~ & mercury at their head. but without any good effect. It has been assisted by bleeding purging cupping, blisters. leeches. electricity, &c but without any advantage: if it arise from any mechanical violence, it may disperse: indeed nature has the power of removing the opacity of this I have known several instances. I think it takes place the oftenest when the capsule of the lens is opaque. often in women than in men. I have seen the cases of two young women where the absorption had occured: they could see by the edges of the convex lens, which makes me believe the lens was removed. I have seen another case brought on by an unsuccessful attempt to couch. As medicines are unsuccessful in this disease, it is a happy circumstance it can be relieved by surgery. ———

Two operations have been proposed. couching. & extracting. Couching is performed with a needle. this is passed through the sclerotic coat about 1/10 of an inch from its junction with the cornea, & pased on till it gets to the centre of the lens it is then turned with its flat part against the lens. which is depressed below the vitreous humor, & if it should rise, the operation should be repeated.

Extracting consists in making a semisection of the cornea. thro' which the lens is removed from the eye. both operations have been performed, that of

couch

couching is the most easy. that of extracting the best. it is the best because the operation, is not so painful: this is proved by comparative operation. the same patient has had the lens extracted from one eye & depressed in the other. When the cataract is extracted it can never again to obscure vision. but it may rise repeatedly, when depressed & occasion blindness, by its falling down & obscuring vision. or hangs loose in the posterion chamber of the eye. When the patient stoops it falls down & produces blindness by closing the pupil. it has been said that the lens is absorbed. but this is seldom the case. When the cataract is fluid it may be evacuated but cannot be depressed. I have known it to be entirely fluid it may be of the consistance of Calves foot jelly. or the white of an egg not completely coagulated. when the capsule is opaque as well as the lens. it may be punctured out, but cannot be depressed with the couching needle. The opaque capsule is by no means a rare occurrence. & it cannot be depressed. because it stretches & tears down at that part in contact with the needle. & after the operation, returns to its place by its elasticity. When adhesions exist between the capsule of the lens & iris, by opening the cornea they may be torn in extraction, but not in depression without injury to the iris. in one instance I saw the iris torn off.

The inconveniences attributed to extraction are opacity of the cornea arising from the cicatrix, but none exists. when it is divided with a sharp knife. with but one stroke. if scissors be employed there is sometimes an opacity. but this is not before the pupil. & of course will not impede vision.

The

The passage of the lens through the pupil is said to stretch the iris so irregularly as to form an irregular pupil. This does sometimes take place. but does not prevent vision. usually. It sometimes occurs in depression & the patient sees as well after as before. The hazard of cutting the iris in passing the knife across the cornea, under the operation be very careful. in passing the knife straight across the eye. the aqueous humor escapes & the action of the cornea. & the iris will fold itself on the edge of the knife. & part of it will be cut away. but this may be avoided by rubbing the anterior part of the eye. which disengages it. There is great danger that the vitreous humor may escape. but this only arises in consequence of undue pressure being made the moment the section of the cornea is finished. Pressure at that time is unnecessary & should not be made ——

In every case of cataract does not promise equal success. it is of consequence to know what circumstances are unfavorable. When it is combined with other diseases, the operation is improper. The favourable circumstances, are the eyelids free from Eczema. the patient should be free from the pain in the head, when the operation has been performed with a pain in the head this is much increased sometimes. the surgeon should not be deceived in examining the eye. as in opaque shots on the cornea. & particular reflexion from the eye & light may deceive him.

The

We may avoid it in the pourn case by looking at the eye sideways: the pupil will be seen below the spot, in the latter the patient should be placed with his side to the window, that the rays of light may fall obliquely on the eye, the pupil should contract & dilate freely. this contraction & dilitation, does not, however prove the retina to be sound; it may be sound, & the pupil immoveable. If the patient can distinguish light from darkness, the operation may be advised. In cases of immobility of the pupil, when the retina is sound, the iris probably adheres to the capsule of the lens. I saw the case of a woman who had a cataract in each eye. the pupil moved freely in both, I operated & found each lens as hard as a stone nearly. the patient saw with but one eye, tho' the operation was performed similar in each. The patient distinguishing the light from darkness is not a certain test. Before advising the operation it will be necessary to enquire, whether the patient be subject to coughing, or apt to vomit, or sneeze; some people sneeze violently. If the patient is subject to coughing &c. we should choose the time for operating, when he is least likely to be affected. I have known the pressure on the upper lip with the finger or hand sneezing, when there was an inclination for it. I knew a case where sneezing ruptured a vessel of the iris, hæmorhagy ensued, which did not stop till a coagulation of blood took place; this extended between the divided edges of the cornea & prevented their union.

I was fearful of removing the coagulum, lest hæmorhagy should again ensue, the eye suppurated, & the patient lost his sight. sneezing might also

also force out the vitious humor. Persons
apt to faint on every occasion are very bad subjects,
they should take laudanum before the operation.
As inflammation sometimes occurs, to a consid-
erable degree & goes on to suppuration, it is prop-
er to confine the patient to a low diet, a few
days & reduce the inflammatory diathesis, it
will be necessary to use venesection & purges &c.
for 8 or 10 days previous to the operation, & a day
or two before a blister may be applied to the back
of the neck, the bowels should be opened to
prevent the inconvenience arising for a few days.
The spring & autumn are the best time for ope-
rating. cold or hot weather are not proper beca-
use in cold weather the room cannot be kept
equally warm, which exposes the patient to the
risk of taking cold, & in warm weather he is apt to
be restless. ——— ———

The instruments for operating are, first, a knife
made after the manner of Baron Wenzel, for ma-
king the incision of the cornea, it should gradu-
ally increase in size from the point to the handel,
it then serves as a wedge to prevent the escape of
the aqueous humor, it should be thin but suf-
ficiently firm not to be broken: the upper edge
must be blunt 'till near the point, & then very
sharp. it may be examined with a microscope. To know
if it be sharp, or a much easier way is to look at it
before a looking glass. in chusing a knife we sho-
uld get one wider at the handle, than the semi-
diameter of the cornea, 2dly a needle a little cur-
ved at the point, with which the capsule of the
lens may be torn, — 3dly a little scoop, of gold or
silver, to extract the small pragments that remain
behind, 4thly a hook to be passed through the pupil, &

fixed

fixed in the body of the chrystalline lens.
5th a small pair of forceps for the extraction of small fragments that may remain of the lens capsule. That may remain ——

It was the custom of ancient surgeons to use the speculum oculi: but I use no instrument of this kind: the greatest objection to them is. they employ one hands of the operator, & he cannot have one to rub the anterior part of the eye. & the instrument gives pain to the patient. & it may excite inflammation. Proceeding to the operation I find it sure, while fixing the eye to assure the patient that there is no pain, or danger attending it. the patient is seated on a low chair, with his side to the window, or else the reflexion from the cornea will prevent your seeing the cataract: a bandage is applied round the head just above the eyes, having 2 depending compresses, attached to it to cover the eyes: that compress hanging over the affected eye, is pined up to the bandage. if the hair before is long it should be cut off, to prevent the chance of it's getting into & irritating the eye. the surgeon is seated in a chair, somewhat higher than that of the patient, & taking the knife in his right or left hand, according as the right or left side is to be operated upon, he proceeds to make the section of the cornea. The patients head should be supported on the breast of an assistant, who raises the upper eyelid. in doing this, the skin should be folded on the superciliary ridge, so as to prevent its closing. the tarsi should be pressed against the frontal margin of the socket. The surgeon

hold

pulls down the under lid, & the moment the eye is steady, he applies the point of the knife to the cornea, at about one sixteenth of an inch from the sclerotica: he only applies the knife but does not suddenly puncture, for at that time the eye generally recedes from the knife, but it should be followed by the knife, & the moment the eye again becomes fixed the puncture should be made: the knife is then carried across the eye, & brought out at the opposite side. If while the section is making, by the discharge of the aqueous humor the iris comes forward, so as to endanger its being wounded, the motion of the knife must be stopped, & the iris made to recede by gently rubbing the cornea, the incision is then to be completed — That the eye may not be the least hurt upon the assistant who raises the upper eyelid should let it fall as soon as the point of the knife has passed through the opposite side of the cornea. In making the incision never draw back the knife, for if this be done it no longer acts as a wedge, to prevent the escape of the aqueous humor; the knife is wide enough to cut itself out: but if owing to the motion of the eye, or any other cause, the knife should be drawn back, it would be advisable to desist from the operation, & dress it till the wound in the cornea heals. — Barron Wenzel advises to puncture the lens during the section of the cornea, by dipping the point of the knife into the pupil. This might be done if the eye is very steady, but it is usually so unsteady as to render his direction impracticable. I prefer tearing the capsule afterwards

with

with a needle it is much easier done this way. If the capsule should prove opaque it can be easily extracted. In taking the capsule care must be taken not to injure the iris; this being done the eye must be closed to prevent it rot. & to let the pupil dilate.

After resting a few minutes, the eye is opened by the surgeon, & gradual pressure made on the ball, at the same time the divided portion of the cornea is raised a little with the scoop. If the lens does not come easily through the pupil, the surgeon takes hold of it with the needle or hook, to facilitate extraction. The moment it is out the lid should be closed, & remain so for some time; they are afterwards opened & the state of the pupil examined, if the capsule is not opaque the patient sees, if opaque the pupil remains white. The surgeon should then proceed to extract the fragments of the capsule: these are often brought into the anterior chamber of the eye, & discharged by gently rubbing the lid over the cornea, but if they still remain the scoop should be used, this should not be pushed too far, for fear of injuring the delicate tunics.

If the capsule of the lens is to be removed a small pair of forceps is the best instrument. Sometimes the lens cannot be extracted by a moderate degree of pressure, tho' aided by the hook, it is probable then that the capsule adheres to the iris. The adhesion must be torn away by the needle, but this requires great nicety. take care not to throw the iris into folds or it may be torn. Sometimes we know the capsule is opaque before operating, we judge of this by the spots of opacity appearing as tho' attached from the lens. In this case after a section of the cornea I advise the anterior portion to be hitched up with a pair of forceps. & by pulling

the

the whole membrane may be easily taken out.
The capsule is extracted first, because it can readily be laid hold of while the lens remains in the eye. The lens when divested of its capsule, falls to the bottom of the eye. it may be extracted with a small hook: a small portion of vitreous humor always escapes. After removing a cataract it is customary to exhibit various substances, as watches & the like to know if the patient has vision. but the eye should not be kept open too long. — During the operation none of the spectators should be present. A gentleman who had been blind 5 years, was operated on for a cataract, his wife stood by during the operation, & was the first person he saw; the poor man burst into a flood of tears & it was with difficulty he could be prevented crying his eyes out.

After the operation is completed, a soft dry rag is to be applied to the eye, & the depending piece of the circular bandage, is to be turned down over the eyes, on this a bandage should be applied & carried round the head. The patient is then put to bed & ordered to lie on his back, to prevent the escape of the humour. — All light should be excluded from the apartment. & he should live on a vegetable diet. a teapot should be used to give him drink, so that he may not use his hands in drinking. The patients hands should be secured by pieces of tape, tied to his bed-rails, to prevent his rubbing his eyes in his sleep. In 8 or 10 days the eye may be examined, if pain or fever comes on, use remedies to remove them, & change the dressings every day as the moisture, that is discharged from the eye is absorbed by the dressings. which becoming dry

causes

causes irritation. When the eyelashes are changed, always pull down the under eyelid. The cilia if they have got into the incision, prevents its healing. — — —

Hernia may be defined to be a tumor occasioned by a protrusion of some of the contents of the abdomen. This takes place at different parts of the body, but most frequently in the groin, owing to the parietes of the abdomen being weakest at that place. — Opposite to the groin is an opening for the passage of the spermatic chord in men and for the round ligament in women; thro' which either the intestine or omentum or both may be protruded. This protrusion may happen in other parts. When the tumor is found at the navel it is called Umbilical hernia, when in the groin Bubonocele, & in the thigh femoral hernia. In every instance it is caused by the protrusion of some part of the omentum, or alimentary canal. In every hernia, the parts protruded are inclosed in a sack which is formed by an elongation of the peritoneum. — There is one species of hernia called hernia congenita, well worthy your attention; here the bowels are in contact with the testicles. The tunica vaginalis which is properly a peritoneal covering of the testicles passes with them, in their descent down into the scrotum, the upper part of this sack generally closes up round the spermatic chord, immediately after the descent of the testicle which is about the time of birth, or 2 or 3 days after or before, it sometimes happens that this does not immediately close up after the descent of the testicle

tiole but remains open for some time, & when it does not close by coughing, straining crying &c. hernia is produced. I shall at present confine myself to that species of hernia called—

Bubonocele: The symptoms are, swelling in the groin beginning at the abdominal ring & passing into the scrotum of men, or labia pudenda of women, the testicle can be felt at the bottom of the scrotum, the tumor is soft, bears handling well, & when the patient lies down disappears. Pressure on the abdomen makes it tighter, & when the surgeon lays his hand on it, & the patient coughs he will feel pressure made against the hand, causing a sensation as if distended with wind. There are some diseases with which hernia is likely to be confounded; as bubo, swelled testicle, lumbar abscess, & hydrocele, but by paying attention it is very easy to distinguish between them. A bubo is generally preceded by a chancre, is hard & painful & the tumor does not disappear upon laying down. It is very easy likewise to distinguish it from swelled testicle, or hydrocele in hernia humoralis. The testicle is hard & painful to the touch, is only found at the bottom of the scrotum, & the spermatic chords can be traced to the abdominal ring, at which place it is free from swelling. In hydrocele the tumor begins at the bottom of the scrotum, & works upwards, whereas in bubonocele it begins to swell at the top, or groin & works downwards, the fluctuation may be felt in hydrocele, & in swelled testicle or hydrocele we cannot

reduce

reduce the tumor by squeezing it. But Hydrocele
is sometimes more difficult to distinguish.
I have seen it enveloped in a cist, which
when the patient strained hard protruded
& the intestines were at the bottom of it. —
Hydrocele is generally diaphinous; a case came
under my notice which was supposed to be
hernia, & as such was treated, I was convin-
ced on examining it it was hydrocele. It was
diaphinous admitting the light to pass thro'
it, & was cured by tapping & afterwards inject-
ing wine ———

In the lumbar abscess, the matter passes from
its seat in the psoas muscle down under pou-
parts ligament, following the course of the mus-
cles, & forms a tumor in the upper & anterior part
of the thigh at which place the fluctuation can be
felt. & the tumor can be pushed from the thi-
gh into the cavity of the abdomen, & vice versa,
as pressure is made on either part. if your
hand be laid on the abdomen & pressure ma-
de, the tumor on the upper part of the thigh
will be rendered more full & tense, the great
danger liable to take place in hernia, is from
the inflammation which ensues, from the sto-
ppage of circulation & feces in consequence of
the stricture coming on. When the existance of
a rupture, is ascertained, it should be reduc-
ed & supported by a truss, the patient can
often reduce it himself. but when he cannot,
the Physician by laying him in horizontal posi-
tion, for the most part can effect it after which a
truss should be applied directly over the orifice.

The

The truss is generally applied on the soft part of the pubis. so as to prop the spermatic chord. occasioneng great pain to the patient, if continued a long time, or applied so far on the groin. as not effectually to close the rupture. The best way is to examine exactly with your fingers, tracing the tumor into the abdomen. & when you find the orifice. apply the truss so that the soft parts shall be exactly under it. just above the upper edge of the pubis. —

Trusses are mostly employed for a particular age. but they should be employed at all ages. when necessary. Stictures sometimes prevent the reduction of the protruded part, but we cannot always reduce them when there is no stricture, & for several reasons. 1st. because too great a quantity of bowels have collected in the tumor to allow of being returned. The 2nd difficulty of reduction is from an alteration of a part of the omentum, & 3d. from adhesion taking place, between the protruded parts & sides of the opening, or from adhesions of the protruded parts among themselves — —

When the difficulty of reduction arises from adhesions. it will admit of no remedy but being supported by a truss. when there have been no adhesions. I have succeeded by compelling the patient. To a horizontal position. low diet. bleeding cathartics &c & applying a truss When adhesions have taken place so that the surgeon is unable to reduce the tumor, a sac made just so as to contain it, should be applied or else the hernia will enlarge to a great size — Tonce saw a case where the

sac

sac had got down to the knees, if the patient in such a situation, neglects the truss, he's not only in great distress, but in danger of strangulation of the hernia. The symptoms of strangulation are, increased, hardness of the tumor, obstinate costiveness, pain if the patient stands up, hard contracted, tense pulse, sometimes vomiting & the tumor becomes painful to the touch. ——

When called to a case of strangulated hernia, it requires immediate care & attention: in proceeding to return the protruded parts, the patient should be placed, in that situation which will throw the contents of the tumor, towards the abdomen, he should be placed on a firm bed, or matrass, with his buttocks raised considerably highest, & the thighs bent upon the body, so as to relax the muscles. When this is done squeeze the protruded parts cautiously with your hands, so as not to injure the bowels: if the patient can do this himself it is best, as he will be likely to use less violence. This operation is called taxis. If this has not been sufficient bleeding copiously has been of use, & Mr Pott advises it to be continued ad deliquium, & then try if it can be reduced. the bleeding tends to prevent inflammation. I have not however seen any case ad deliquium animi, where the reduction succeeded immediately after. Cathartics are generally given after reduction, I have found Cum. Tart. with abot 8 or 10 Grs of jalap & gutta Mentha S. answer very well, with this the warm bath should be used. The patient should be kept in till he becomes very weak, & while in the bath the surgeon should try again to reduce it. This by bow-

awing

ducing a general relaxation, will I doubt not frequently succeed. I have therefore a very good opinion of warm bathing, for strangulated hernia. When all these remedies fail injections made of a decoction of tobacco (3i of tobacco to a pint of water) may be used. this decoction is to be thrown up so as to occasion nausea & vomiting & general relaxation. This is the most successful method of strangulated hernia, but the fumes of tobacco are not so convenient, as they require a convenient apparatus, & sometimes they excite spasms. When all these remedies fail, the application of ice or snow has proved useful. strangulated hernia has been reduced by cold. this is particularly recommended by M^r Wilmer, & I should not hesitate to employ it when other remidies fail. it should be continued sometime, perhaps 3 or 4 hours if necessary. 343

If all these remedies fail, we must resort to the operation, for if the patient is not soon relieved, he grows worse. the sickness becomes more distressing, the pain is intense, the belly swells, the fever runs high, hiccough, cold sweats & coma, but after a while the symptoms cease, & the patient thinks he is getting better: & in some instances the contents of the tumor voluntarily go up, but the symptoms soon returns worse than before, & death closes the scene from mortification of the intestines coming on. It is difficult to tell when is the best time to perform the operation, because the bowels sometimes mortify in a short time, by the pressure, & at other times the patient will bear it 4 or 5 days, & then get well: but in general I would advise if the above remedies fail, to perform in about 30 hours, at most, after its commencement, if the strangulation remains.

I have once succeeded in reducing the tumor after all other remedies have failed, by raising the foot of the bed considerably higher; the tumor receded voluntarily in the course of the night. —

In proceeding to operate for Bubonocele, the first precaution is, to shave away the hair, then make an incision in the direction of Poupart's ligament at the upper part of the tumor, about 4 inches in length, & dissect up the upper part, laying the tendon of the external oblique muscle bare, so as to expose the ring, this done puncture the tendon in the direction of the fibres, at about half an inch, from the upper part of the incision. A director is introduced at the puncture & passed out at the abdominal ring; the part of the tendon laying over the director is divided lengthwise of its fibres; an attempt is now made to reduce the contents of the taxis. This practice has been disapproved by some surgeons, who say that the contents of the sac, may be in such a condition, as to forbid reduction, & that it should be opened to examine its contents, for, say they, if any of the parts be killed, or the sac contain acrid serum, & be returned in this state into the abdomen, it will occasion great inflammation. but, I would ask the surgeons, if they would ~~ask these surgeons, if they would~~ not, before the operation, use every exertion to reduce it without an operation — Opening the sac would produce a communication, for the air to the cavity of the abdomen & all such communications are attended with violent inflammations, which mostly terminates fatally on a before the 3rd day. & in the present case if it can be reduced, it will prevent the necessity of opening the sac. Should the attempt to reduce the protruded parts prove ineffectual, the

Op

operation must be continued to the bottom of the scrotum, & the sac laid bare. after this attempts to scratch through the sac, should be repeatedly made with the point of a scalpel, trying with a probe after each scratch, whether a puncture be made. & when this is done introduce a director, & with a blunt pointed bistouri enlarge the orifice so as to admit the finger, which is the best director for the knife, & then the sac is divided the whole of its length prominent. Next examine the contents of the sac, which if sound, must be carefully returned into the abdomen: but this cannot be done at times for 3 reasons, 1st adhesions 2nd a change in some of the protruded parts, or 3d a stricture in the neck of the sac. When they cannot be returned on account of stricture, the mouth of the sac should be divided, introducing the finger as far as possible for a director, to prevent wounding the intestines, adhesions may be easily separated, either with the fingers, or the handle of a scalpel. If the protruded part has mortified, it should be separated, & the sound parts of the intestine be joined by the interrupted suture, & sewed part to the sides of the wound: & notwithstanding the faeces will escape through the orifice for some time, it will mostly heal well at last.

In the inguinal hernia it is best not to open the sac: when it can be avoided, yet in Femoral. Ruptures. I believe it is mostly safest to open the hernial sac & then divide the stricture: The sac here is externally thin, & easily to be seen, in proceeding with this operation a great deal of caution is necessary to prevent wounding the intestines;

when

when cutting near the neck of the sac care
should be had, not to bear to either side,
because the epigastric artery lapses on the out-
side, & on the inside the spermatic chord.
coming each other directly over the structure of
the part, & if you cut posteriorly you will
wound the large blood vessels. Formerly this Mr
Gimbernot proposed to dilate the stricture, by ma-
king the incision towards the pubis, this method is
after opening the sac, to introduce a director or the
finger, which is better, along with the bistoury,
having its edge looking towards the pubis, when
you come to the stricture, the incision is to be made
towards the pubis; dividing the stricture so as to
cut behind the spermatic chord. Mr Munro ad-
vises to cut from the neck of the sac towards
the Umbilicus, so that by keeping that direction
you might dilate the stricture towards the an-
gle formed by the epigastric artery and sperm-
atic chord, & thereby avoid wounding either.
I would advise you to read Pott, Hay, & Cooper
on this subject, Sometimes the finger cannot be in-
troduced on account of the smallness of the ap-
erture, When this happens, introduce a director,
& then with a bistoury, lay it open sufficiently
to reduce the protruded parts — If the protruded
part of the intestine be found mortified, it must
be removed, taking care to cut through a sound
part, so that the dead portion may be complete-
ly removed, & the sound part stitched to the
side of the wound, so that the intestine may protru-
de half an inch, The protruded parts will be retra-
cted in time, as the parts heal, into the cavity of the
abomen, & as they are drawn in, the edges will come

near

mean in contact, till they unite & form a perfect canal completely within the abdomen & the patient will discharge the feces in the natural way. Sometimes the omentum is found in a sphacelated state, but it should never be returned to the abdomen, for the dead part would cause peritoneal inflammation, the folds must be spread out, & the dead portion seperated with a pair of scissors; if an artery is divided it must be taken up, leaving the thread sufficiently long to reach out of the abdomen. Mr Hay has proposed taking off the dead portion with a ligature, tying it so that it will only indent the omentum at first, daily tightening it, till it is completely seperated: & when the gangrenous part of the omentum is protruded down thro' the opening, it is a very good method ——

Hydrocele, consists in a preternatural collection of water in the scrotum. There are 3 species of this disease. the 1st is an effusion in the cellular substance of the scrotum. the 2d is when the water is contained between the tunica vaginalis & testis, in the 3d the water is contained in a cist, or cysts, on the spermatic chord or testis ——

The 1st species is an anasarcous tumor, is a symptom of general dropsy, & is easily distinguished from the other species, It is of a smooth, equal surface, & is equally diffused over the scrotum: the tumor has a doughy feel, indentations may be made with pressure. the skin is nearly of its

natural

natural colour & diaphinous, & the skin of the pinis is distended. if the patient lies down no diminution of bulk takes place. the swelling begins at the bottom of the scrotum, the testicle & spermatic chord may be easely felt at the beginning of the disease. —2—

The 2nd kind or that of the tunica vaginalis is owing either to an increased action of the exhalent vessels, or to a diminished action of the absorbents. the swelling in this species begins at the bottom of the scrotum, soft at first & gradually grows more tense, but cannot be reduced by pressure. tho' sometimes it collects suddenly from the rupture of a lymphatic. the tumor is small at first in which case the testicle can readily be felt, but when the tumor is large it is not perceptible. the fluctuation can readily be perceived & the tumor is diaphanous. The disease most likely to be compounded with it is hernia. It is however easily to be distinguished from hernia, as in the former case, the tumor begins at the bottom & extends upwards, but in the "latter the contrary takes place. Hydrocele is always permanent, but in hernia the tumor often disappears when we lay down. Schinhus of the testicle has been compounded with it, We can distinguish between schynhus & hydrocele, by the former having a swelled spermatic chord, & in schinhus the tumor is flattened & is heavier than in hydrocele. It is scarcely possible to compound it with hernia humoralis.

This kind of Hydrocele is however very complicated, so as to require much attention to distinguish between it & other diseases —1—

Jn

In the 3rd species the testicle can be felt at the bottom of the scrotum, the tumor is diaphanous & swells up to the ring, & in one case I believe the swelling extended through it, in such cases there is much difficulty to distinguish it from hernia, only if we press the tumor so that the water passes into the abdomen, the instant we remove the pressure the water will return. I shall now proceed to speak of the —

Treatment no inconvenience results to the patient from hydrocele, but from the weight & bulk of the tumor, tho' the skin excoriates at times in hot weather, & if the patient walk about, it causes pain in the back, from the weight, this is relieved by the suspensory bandage which is worn with so little inconvenience that some patients refuse to submit to an operation. The anasarcous hydrocele is generaly cured by medical means, it sometimes however is necessary to resort to an operation to discharge the fluid to produce a cure; this I would advise to be discharged slowly by means of small punctures made with a lancet, that it may ooze out, this is preferable to making an opening with caustic, or the introduction of a seaton, or making a deep incision which may produce mortification. The punctures are to be covered with any lint, they should be made in 4 or 5 places, sometimes an anasarcous tumor is produced by the bursting of the tunica vaginalis, A case came under my care, in which as the patient was sitting still, he felt something snap in the

scrotum

scrotum, & shortly after a tumor appeared, which was soft, & diffused over the whole scrotum, the skin became black which very much alarmed the patient, as he supposed mortification was coming on, Three Physicians were called in who not understanding the nature of the case, were suspicious that his apprehensions were too well founded, Mr Hunter supposed that the tunica vaginalis was ruptured, & that the colour was owing to the escape of the blood, this proposition was readily agreed to, & the patient was informed that the blood would in time be absorbed, & the wound in the tunica vaginalis heal, but that he would be subject to a return of the complaint, all of which turned out as had been predicted —

Dr Elie mentions a case of Hydrocele of the Tunica vaginalis, which was cured by purging, I have cured it by causing water to be poured on it from the spout of a teakettle 2 or 3 times per diem — This method will often succeed in children, sometimes it is absorbed without any aid, when both these fail it is necessary to have recourse to an operation: relief may commonly be obtained by evacuating the water, this is done by means of a common lancet which I prefer to the trochar, When the trochar is used it is to be pushed through the scrotum into the cavity of the hydrocele, the stilette is then withdrawn to suffer the water to pass off, after this is done the wound is closed by applying a strip of adhesive plaister, & the part supported by a suspensory bandage. This is only palliative,

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& is not sufficient to cure the disease complet-
ly, but to produce a radical cure, it is necessary
something more should be done. There are sev-
eral modes of effecting a radical cure, it is necessary
something more should be done than just topi-
cal remedies. but the object of them all is, to
effect an union between the tunica vaginalis
& testes of which I will mention 4. The most an-
ancient is to make a long incision thro' the scrotum,
so as to examine the state of the testes, when it
is ascertained to be free from schirrhus, lint is
placed in the cavity between the tunica vagina
lis & body of the testis, to excite an inflamma-
tion of the part, so that the surfaces may adhere
together. the lint is to be left in till suppuration
takes place freely then it is to be extracted, when
the vaginal coat adheres to the testes forming an
union with it. This frequently succeeds but it
causes great pain & inflammation, & abscesses
sometimes form after the patient is thought to
be well. I have seen abscess form in the scro-
tum, in consequence of some portion of lint being
left behind. 6 weeks after the wound had healed.
& it frequently happens under this treatment.—

The next means, is by an eschar formed by me-
ans of caustic. this is not only attended with
great pain & inflammation but causes a large
suppurating sore, to the no small distress of the
patient. Mr Ellis has proposed to apply it only
of the size of a shilling. which he thinks would
be sufficient to excite inflammation over the
whole cavity, but this often produces violent in-
flammation of the whole scrotum, & sometimes

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mortification. This method is seldom used at present. The 3rd method is to pass a seaton through the scrotum, between the tunica vaginalis & testis. This method is recommended by Mr Pott, but it is exceptionable, because the adhesion will take place only at the part of contact of the seton, & then the disease may again occur, & likewise when there are cysts in the body the testis this treatment will not do, & these cannot be opened without laying open the tunica vaginalis, but the cure must be effected by suppuration.

Mr Earle has used the method of throwing stimulating injection into the scrotum, he uses the wine diluted with one half water, Some advises a solution of white vitriol. & I have no doubt but that it would answer very well. Corrosive sublimate has been recommended, but if it be employed it should be very weak. After the water has been drawn off, wine may be injected into the tunica vaginalis: this will sometimes cause a good deal of pain, across the lumber region, & has produced syncope. It should soon be let out, perhaps in 3 or 4 minutes. inflammation will come in about 3 or 4 days, but never runs very high, & soon subsides without any trouble. If there is much inflammation, venesection may be necessary.

Frequently in the cessation of inflammation, the water again returns: in all cases of this kind I have effected a cure by pouring cold water over the part, to the amount of half a gallon per day: When the first operation fails it is not so severe but that the patient will mostly submit to it again.

When 1 or 2 injections will not do. Mr Hunter proposes to make an incision about an inch long in

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*can be introduced to know if any by-laws —

the anterior & upper part of the scrotum so that the finger may exist. & fill the space between the tunica vaginalis testis with flour or a small boles of dough, to cause an equable suppuration over the whole cavity; after 4 or 5 days suppuration will have taken place, & the dough will have become soft. so as to resemble thickened pus, in consequence of mixing with the fluids thrown into the cavity. the contraction of the scrotum which takes place will gradually force out the dough & as it is removed the sides are brought into contact. regular adhesion takes place. & the adhesion take place, & the cure is effected. I have performed this operation several times. & believe it to be the best mode of curing the complaint. —

The instruments for injecting the wine are a trochar about 3 inches long, a syringe or a cock with a bladder, or gum elastic bag fixed to the end of it for containing the injection. The patient is seated on a chair & directed to grasp it with his hands, because if they are at liberty, he will be apt to disturb the surgeon. when fixed in this manner so that the scrotum projects over the edge of the chair, the operator takes hold of it & produces a tenseness in that part of the scrotum in which he intends to make a puncture. & then pushes in the trochar. as soon as this instrument has penetrated into the cavity the stilette is withdrawn & the canula pushed farther in, to prevent the tunica vaginalis slipping off the end of the tube which would prevent the water from escaping out. When the water is drawn off an injection of Port wine is thrown in retained awhile

&

& then suffer to run out. The wound is closed with adhesive plaister, the scrotum is suspended, & the patient put to bed. Care must be taken to keep the canula thro' the tunica vaginalis when you inject, else the whole of the injection will be thrown into the cellular substance, without effecting its way into the proper place, & a new operation will be necessary: You must also be careful to examine well where you puncture the scrotum to avoid wounding the testicle which too often happens — A gentleman troubled with hydrocele, called a surgeon to his aid, who performed the usual operation with a trocher, but to his astonishment no water flowed upon his drawing the stillette. Another surgeon was called who likewise performed the operation nearly in the same place, but with similar success. A third surgeon operated, but met with the same disappointment as the other. They now agreed that it was a very difficult case to understand. Mr Hunter said was then called, who, upon examining the case, & recollecting the peculiar sensation, the testes testes gives when squeezed, yet by the sensation caused by squeezing, he found the testes to be attached to the scrotum at its anterior part just where they made their puncture, & that the trocher had been pushed into the body of the testis, he then pierced the tumor at the lower & back part of the scrotum, where the testes usually lie, & the

water

water flowed out as it usual in common cases. **LITHOTOMY**

Calculous concretions are found in different parts of the body: I have found one of the size of a pea at the root of the tongue, they are found also in the salivary duct, lungs, uterus, &c. but they are most commonly found in the organ of urine. The incrustations deposited on the sides of vessels which hold urin, prove that the calculous substance it contains may readily form a stone.

The quantity of calculous matter varies in different persons. If it is greater at one time than it is at another in the same person. It is not my intention to enquire into the circumstances which dispose the body to the formation of calculus, it being sufficient for my purpose, to know that it can be formed by a deposition from the urine. — I have seen a calculus concretion form on the end of a catheter that had remained in the bladder for a few days. The different kinds of substances that have been found in the substance of calculi, prove sufficiently that any kind of substance remaining in the bladder for a short time may form a nucleus for a stone. The stone is not always of one uniform consistence, but consists of several laminæ, some of which are hard some soft. They are likewise of different colours some being white & others of a dark brown. The reason of this difference I believe has never yet been satisfactorily accounted for. Stone is sometimes found in the kidney & prostate glands. I believe it most frequently originates in kidneys & is washed down the ureter into the bladder, tho' it is not

always

always the case, when it is in the kidneys it occa- 369
sions pain in the small of the back. a case of
this kind was cured in a gentleman. by riding
on horseback from Germantown to Philadelphi
a. but he was the same day affected with stone
in the bladder. When stone is formed in the
kidneys. there is a considerable difference from
what happens when formed in the bladder.
Mr Broomfield has described the symptoms
so accurately, that I shall give them in his own
words — When they exist in the bladder they oc-
casion a distension of that viscus. by preventing a
discharge of urine, but when in the kidneys they
they prevent it from flowing into the bladder
The stone frequently lodges in the urethra in
its passage to the bladder. occasioning a great ac-
cumulation of urine & distension of the ureter.
above the lodgment of the stone till the column
of urine, & distension be so great as to force it
down into the bladder — This causes consid-
erable pain. but when it is washed down
into the bladder the patient is much easier —
The stone is sometimes lodged between the coats
of the bladder, producing great pain & the stoning
are violent. When the patient complains of burn-
ing & pain in the bladder. we have reason to
believe the stone has found its way into it.
The patient should drink plentifully of
barley water. & endeavour to pass the urine to
expel the stone. he should try this repeatedly
if it does not succeed the first time. if this is
not successful the pain becomes greater. & it
is always worse after voiding urine.
When a stone exists in the bladder the pa-

patient feels an itching sensation at the glans penis with pain & heat in the bladder at the place where the stone is lodged. The stream of urine is suddenly stopped. (at times occasioning great pain), by the falling of the stone on the orifice of the urethra, & at other times it flows in a full stream. — An uneasy sensation all along the urethra, between the perineum & glans penis, as tho' something was lodged in the glans penis or passage of urine is felt. occasioning the patient to squeeze and pull it up. thereby occasioning an elongation of the penis & prepuce — Sometimes it is attended with tenesmus & prolapsus ani. The urine is pale & often mixed with blood. Digestion is interrupted. flatulency. costiveness. weekness. fever. & if the stone is not removed death takes place. Tho' there are the generally attending symptoms of stone in the bladder. they do not prove it unequivocally. as they may occur from other causes, as inflammation or ulceration of the neck of the bladder: or ulcer or tumors of the scrotum. A case of a young woman came under my care with the symptoms above described. who was sounded 3 times without finding any stone: after which mercury was prescribed. & in about 2 weeks the patient got well, In this case I suspect there was an ulcer at the neck of the bladder. Hemorhoidal tumors not unfrequently cause the symptoms. Sometimes the stone is incisted. and then the patient experiences no pain. because when he moves about. the stone is prevented from falling on the neck of the bladder. When the patient discharges small peices of stone we may expect the existance of a stone. The

stone

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stone can mostly be felt by sounding, which is the shurest way of determining it's existance. For this purpose we use an iron instrument called a sound. Yet the attempts of surgery to put the stone may be frustrated, by its situation behind & below the neck of the bladder, but if the surgeon introduce his finger into the rectum, & press that part of the bladder up he will be immediately able to feel the stone. — —

Many remedies have been employed for the cure of the stone, but in general they do no good. different substances have been taken into the stomach for that purpose, & others have been injected into the bladder as a solvent for it but all is of no use. Strong alkaline solutions are found to dissolve the stone out of the body, & hence have been advised for a cure. The most usual substances taken into the body are aqua neptistica, alkalena, aqua Calcis. Uva ursi. &c. Medicines have likewise been advised to be injected into the bladder to dissolve the stones. One great objection to this species of medicine is, that they may occasion the coats of the bladder to slough off, & thereby endanger the life of the patient. The carbonate of potash has been serviceable in some cases, lime water may be useful to relieve the pain, Uva ursi has likewise been given for that purpose. Bloodletting & opiates or warm bathing, are the best remedies for a fit of the stone. When the substances employed fail of giving relief, the operation of Lithotomy becomes necessary for the existance of the patient. Before proceeding to the operation in cold weather, we should dip the gound in warm water, to prevent contraction of the parts.

The patient should be laid on a table, or

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some convenient place, & the surgeon, after oiling the sound, proceed to introduce it with the concave part turnd towards the bladder. if it not easily introduced in this manner. turn the convex side towards the bladder & try again, the sound will frequently pass up the urethra till it comes to its membranous part. & then suddenly stops. no force should be used to gain an entrance, lest the sound be forced out of the urethra into the soft parts. To avoid the folds in the urethra that stops the sound the instrument is to be turned round with its concave side up in such a manner that it shall revolve exactly on its axis. Some surgeons turn the concave side of the sound to the bladder, & persist in that particular way for its introduction, whilst others as tenaciously pursue the opposite course. This arises altogether from prejudice, because they have always been used to do it in that way. When the sound is introduced, turn it in all directions, if you do not feel the stone, push it further into the bladder, & if it is not yet felt cause the patient to change his position: when the stone has eluded the sound it is frequently felt, by placing the patient on his hands & knees: & when its existance is fairly ascertained, the operation may be performed.

About 2 weeks previous to the operation, the patient should attend to his diet, & live low, & the day before the operation should take a dose of castor oil, to open his bowels, & about an hour before the operation a glyster of opium should be administered. Some advise to empty the bladder before operation, but I should advise to have it moderately distended which will render the operation easy

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The apparatus necessary for the operation are 1st a table of the ordinary height, which should be narrow, so that the assistants can have an opportunity of holding without bending over it, which would tire & prevent them from holding steadily, a blanket or something of the kind is to be spread on the table. & pillows to support the patients head, ~~&~~ We should be provided with warm water, & sweet oil, also with ligatures & a tenaculum, for taking up divided vessels. Ligatures must be provided to tie the hands to the feet, to prevent the patient from kicking. worsted binding answers very well for this; next a grooved director, a scalpel, a sharp pointed bistouri, a gorget to divide the sides of the neck of the bladder, the point of the gorget should be so as to play easily in the groove of the staff. (which is of great consequence) it is also to be very clear of blood, or unctuous matter, & very smooth & clean; we must also have forceps of three, I prefer small ones to those which have large ends, for grasping the stone; if these are not strong enough to extract the stone, a common scoop such as accouchers use for extracting the childs head, may be introduced by the sides of them, & assist in drawing out the stone, sometimes the stone is not sufficiently strong to bear extraction, but breaks in pieces, then the small forceps are much the best; if any part is broken off it may be easily seen by examining the part extracted; a syringe has been found useful to clear the bladder of small pieces of stone, by introducing it through the wound, & injecting warm water into the bladder which will wash away every small piece that remains. It is necessary for

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the edge of the gorget to be very sharp at the beak, else some force must be used to penetrate the bladder by which the gorget may go to par & wound the fundus of the bladder; & an accident of this kind actually happened with Mr Broomfield: The reason why this part of the instrument is mostly dull is because the Cutler cannot get at it to sharpen it on account of the back. to remedy this inconvenience. I have got some made so that the sides can be taken off, leaving the back only behind, & when taken off in this manner they can be sharpened at the point as easily as at any other part the sides are pastened on by means of a screw. the old form of a gorget had one sharp edge, & the other blunt, but they are now used with two cutting edges, so that both sides of the neck of the bladder may be divided. The edges used also to run from the beak in a curved direction, but I prefer them straight & forming an acute angle

We now proceed to introduce the director, after this is done the patient is desired to take hold of the outside of the heel, when the surgeon pases the ligatures, previously fastened, to the wrist round the feet, each hand to the foot of the same side.

Two assistants stand by the side of the table, & each takes one knee of the patient in his axilla, & grasps the foot with his hands, & another assistant takes hold of the director's handle & draws it to the right side (of the table). The surgeon then holds away the scrotum from the perineum (or, which is better the assistant who holds the director should also hold away the scrotum, as the operators hands will be more at liberty) in which he makes an incision from above downwards between the anus and ischium, on the

left

left side. after cutting through the skin and cellular ~~membrane~~ substance to feel for the arector. then take a sharp pointed bistoury. placing your fingers at the sphincter ani to prevent cutting it. & cut towards your finger till you find the groove. then rest the back of your bistoury on your finger. & putting the point in the groove of your staff. lay it bear. the surgeon then places the beak of the gorget in the groove. & taking holds of the handle of the staff with his left hand brings it to a right angle with the body. an assistant then takes the scrotum & draws it up. the surgeon bears down the handle of the gorget & pushes it into the bladder & the urine that is in the bladder now escapes. when the gorget is got into the bladder the staff is now withdrawn. then introduce the forceps & take away the gorget. drawing it carefully not to make a new incision. ——————

The handle of the forceps should be turned upwards as gravity will cause the stone to fall to the bottom of the bladder. The forceps should never be held in one hand but one handle in each hand. when you have got hold of the stone introduce your fingers by the sides of the forceps to loosen any part that may be entangled. & to place the stone in the best & easiest manner for its escape from the bladder. When the stone is extracted examine if any more remain in the bladder, or if any be broken off from that taken out. If any vessels be cut use the common means to secure them. The patient is now untied his knees put close together & put on his right side in bed ——

If you are about to push in children, they are often seized with a straining fit. The diaphragm & abdominal muscles press the viscera of the abdomen on the fundus of the bladder, & if you push in the gorget during this straining, you will very certainly cut the fundus of the bladder. If it come on after you have avoided the neck, & the urine is evacuated, it will be safest to withdraw the gorget.

In Females the operation of Lithotomy is much simpler. Some have advised to introduce the staff into the bladder, & then with a bistoury make an opening into the vagina & extract the stone through it. This mode will sometimes answer very well. the wounds has generally healed very kindly when I have operated in this manner. But I prefer the gorget — enlarge with a bistoury & extracting

Amputation

When treating of wounds I told you, that when the parts were injured so that they could not recover, amputation became necessary, if this has been deferred till after inflammation has come on, we must then wait till it has subsided. Amputation also becomes necessary from tumors, as white swellings of the joints, Diseases of the joints, often produce hectic fever, & the patient becomes much debilitated, by night sweats, loss of appetite &c. & amputation is necessary for his restoration. If the patients stomach be good, never fear to operate, tho' he be much emaciated. We should never amputate while mortification is progressing. (if it has come on) for if this be done, the stump will be very apt to be attacked & the patient will be obliged to submit to another operation, but if we

we wait till the mortification has stopped & the dead parts separated; the bone only will remain to be cut, which will cause but little pain to the patient. another cause of amputation is tumors, causing the absorption of bones or joints, also fungus; hœmatodes

If the disease is near, or at the ends of the fingers it will answer very well to take it off at the 1st or 2nd joint, so that a portion of skin may be left to cover the ends of the bone. this done, the edges of the skin are to be brought in contact, & kept so by adhesive plaister, & secured by a roller; which as the arteries are so small, will be sufficient to prevent hemorrhagy. sometimes the fingers has to be taken off at its articulation with the meticarpal bones; all that is necessary, then, is to cut down to the fingers till you come to the joint, then after the fingers is removed, & the vessels secured, bring the edges of the skin together, & apply adhesive plaister; a roller is also to be passed round the hand. When we have to take away the metacarple bone, it may be done at its articulation with the carpus, or sawed off at any place where it is necessary, with a metacarpal saw, just separating it by making a considerable incision directly over the bone from the fingers down to where you would take it off. & if any vessels are cut, take them up with a tenaculum; bring the edges of the skin together & secure it with an adhesive plaister, & apply a bandage round the hand. ——

When we amputate the leg, the following things are necessary; viz, a compress, bandage, a Tournique, these are to be applied just above the knee, if the leg is to be amputated but if it is the thigh, they are to be applied near the groin —

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A straight knife. This shoud be very sharp, for if it is dull the skin will be thrown in folds before it, & the surface of the dreaded edge will be very uneven & ragged. A scalpel. a callin. this is a knife with two cutting edges. a retractor. this is a piece of leather with 3 tails. the middle piece is passed though the middle of the tibia & fibula. its use is to hold back the soft parts after cutting through them while the bone is removed. a saw for cutting off the bone. it is necessary that the saw be not very wide. else by binding on the kerf it will be apt to break off the bone. before it is cut though. leaving portions to be broken off by the nippers. — A pair of nippers to break off any spicule that remain. a tenaculum & besides these it is necessary to have some warm water, sponges, needles, ligatures. lint adhesive plaister cerate, tow. & 2 bandages of linnen called longets ——

In proceeding to an operation. the patient must be laid on a table covered with a blanket. or pum matras. a compress is laid over the principle artery. & a tourniquet applied on this. to stop the circulation. — About an hour before the operation. the patient should take a dose of laudanum. not so much to ease the pain as to give the patient fortitude. & enable him to undergo the operation. because some patients cannot otherwise stand it. —

I have seen a person faint. 3 times under the same operation. — The tourniquet is to be screwed till the circulation is stopped; in order to ascertain this. I commonly apply my finger on the anterior tibial artery. while the assistant screws the tourniquet, by which you can tell as soon as stopped. When the injury is near the foot there are two places where we may operate. If it is a person of high life who wants to have

have the appearance of two legs, & go in compa-
ny & who can afford to get an artificial leg, it
may do to operate as far below the knee as convenient,
but if it is a poor man who has to inarge hard-
ships, & can but ill afford an artificial leg, the
operation should be performed just below the knee,
he can then bend his knee & bear his weight
on the parts naturally formed; without much
inconvenience from the projecting stump, which
would be greatly in the way. were the leg taken off
at the ankle. The inconvenience from a stump pro-
jecting is so great that a person who has one, un-
dergoes a second operation to get rid of it. ——
After the tourniquet is screwed so as to stop the
circulation, let an assistant draw up the skin;
then take a straight knife, & make an incision
round the leg, it is not necessary that this should
be done at one stroke, as some advise. I have
seen a surgeon place himself in such a posture
as to carry the incision round at one stroke,
that I was really afraid that he would cut off
a piece of his own nose, which might have been
done by the least slip of the foot. Some surgeons
advise to make the incision straight thro' to the
bone; but I would advise to make it obliquely, so
that the skin on the back part of the leg may be
brought in contact with them on the fore part,
& completely cover the ends of the bone; after cut-
ting round though the skin & cellular membrane,
disect the integuments from the muscles, & turn
them back, if this cannot be done they must be
drawn back, then divide the muscles down to

the

bone. This done, divide the interosseous ligament 391
& muscles with the catline, & pass the midale
straps of the retractor between the bones to draw
back the soft parts, then saw off the bones, I
mostly saw off the fibula first & then the tibia;
it is necessary to make long strokes with the
saw or else the kerf gets clogged. After the leg is
off wash the surface with warm water & search
for the principle arteries, which must be dra-
wn out with the tenaculum & secured with a
ligature, when all the arteries that can be seen
are taken up, the tourniquet must be used to see
if any of the flesh arteries bleed, warm water
should be poured on the place & the patient
should have a little wine & water to drink,
to excite the circulation, & expose all the bleeding
arteries. When they are all secured wash aw-
ay all the remaining clots of blood & draw
down the integuments over the ends of the
bone, & wrap a bandage round the stump
to prevent the contraction of muscles, secure
the edges of the wounds in contact by adhes-
ive plaister, but before they are applied the ligatu-
tures are to be brought out at the corners of the
wounds, & a piece of lint spread with cerate is
to be applied between the edges, to prevent their
union by the first intention, for if they unite
before the ligatures come away, they will pre-
vent their being thrown out, & an abscess will
be formed causing great pain to the patient;
after the adhesive plaister apply lint spread
with simple cerate: then a pledget of tow, after
this the longets in a crucial form, & secure them

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by a roller. the tourniquet should be left on. tho loose, after the leg is dressed to be in readiness if hemorhagy should occur. the patient is now put to bed with the stump resting on a soft pillow

In Amputation of the Thigh the instruments are much the same, thos the catline is not wanted & the retractor is only to be stit in the middle. we should operate as low down as possible, but so that none of the diseased parts are left. After making an incision thro' the skin, dissect the integuments as in the other case, & divide the muscles down to the bone, this done apply the retractor & saw the bone, after wasting take up all the large arteries & veins; in old people the arteries are sometimes ossified Then pass a needle round some portion of the muscles including the vessels in the ligature, the better to prevent hemorhage, all the other proceses are similar to those I described before

Bronchotomy

Sometimes a swelling, or other obstruction of the aspera Arteria, takes place to such a degree, that an operation is necessary. this is performed between the tyroid & cricoid cartilages, first make a longitudenal incision down to the cartilages & then puncture the trachea with the point of a knife, & introduce a silver canula, which is to be secured in its place by tapes passed thro' holes in its bare, & round the neck of the patient, This is a very safe & easy operation, & no vessels run in the way to cause hemorhage

Asce

Ascites, is a collection of water in the cavity of the abdomen, for which it is often necessary to preform an operation called Paracentesis. The operation is generally preformed in the left side about half way, between the superior anterior spinous processes of the illeum & umbelicus. The celebrated Mr Cline in preforming the operation, wounded the epigastric artery, & the patient was suffered to die from the hemorhage. I say suffered because he ought to have cut down to the bleeding vessel & secured it. — This made him so judicious op operating in the side, he therefore proposed making an incision about half way between the hubis & navel, & notwithstanding the tendinous part that is perforated it heals up as well as any other part, however contrary it may seem to theory. The urine should always be first evacuated. The operation is generally performed with a trochar, the stilette of which some surgeons have flat, this must be very inconvenient, & require a great force to push the canula in the belly. Others have the stilette triangular. — It is of great consequence to ascertain, whether the tumor be really a collection of matter, if it contain water it may be gendually known by the fluctuation being felt. An actress who had been tapped several times for an ascites, believing herself afflicted with a return of the complaint, & applied to the surgeon for relief, he without

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examining. sufficiently plunged the trochar in, as he formerly had done, but to his astonishment no water flowed. In about 3 days she died. & by examination, the wound was traced into the uterus. & found to terminate in the labia of a polypus. — I generally perform the operation with a common lancet, which answers very well. & instead of a trochar introduce a large female catheter, the round end of which will pass more easily & will not be so liable to be stopped, by the intestines coming in contact with the orifices, which are in the sides of the catheter, but near its end & will allow the water to flow out without interruption. Sometimes while the water is flowing, or just after it is evacuated, the patient faints, He should have some wine & water given him, & a degree of pressure made on the abdomen, to keep up some of the tension that existed before from the distension. After all the water is evacuated, withdraw the catheter & bring the edges of the wound in contact by adhesive plaister. & apply a compress to the orifice, this done pass a roller round the belly for a support

Aneurism

An aneurism is a morbid dilatation of the heart or some part of the arterial system — Aneurisms are divided into true & false, the true are those that are just described. & are attended with no wound of the cutis — The false are such as occur from accident, independent of any disease of the artery. I shall confine myself principally to true aneurisms. There is a

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greater tendency to aneurisms in one part than in others.— They may occur in the aorta, & different parts of the body at the same time, but are mostly confined to one part of the arterial system only, which yielding to the momentum of blood, grows weaker & weaker, & at last bursts.— The proximate cause of anaeurism, is a disproportion between the momentum of the blood & power of the artery.— Of the remote cause, we know but little; excessive use of ardent liquors is said to be one cause, it is said by some that violent strains lay the foundations for aneurism. I have seen false aneurisms in the ham, from contusion: It has been said that aneurisms, have sometimes been occasioned by bleeding, in consequence of the lancet passing through the vein, & wounding the outer coat of the artery, leaving it too weak to resist the force of the blood. To ascertain this Mr Hunter laid bare the the carotid artery of a dog, & then dissected away the coats of the artery one after another till he came to the internal one. The wound was then tied up & the dog left to himself; about 3 weeks after the dog was killed, the artery was examined & found to be of the natural size, not having dilated in any way, & the artery had got well.— The circumstance which lays the foundation for aneurism, is a diseased state of the artery, which renders it too weak to resist the impetus of the blood. An aneurism is not simply a dilitation of the artery, but there is likewise a roughning of the internal coat, which, at times comes of spiped: it is said that aneurisms occur less frequently in women than in men. I have however seen several cases of aneurism in women. They occur most frequently in young people. It is of great consequence to distinguish between aneurisms

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& tumors of any other kind. tho' the difference is 401
obscure & often not to be perceived, especially in old
aneurisms. In recent aneurisms the pulsation can be
felt by pressure: but after some time when the
swelling & detumescence are much increased, put-
ting the parts on the stretch, & coagulum is formed
coagulum is formed, the pulse becomes obstructed,
because the stroke of the heart has to be contin-
ued. tho' the coagula to the finger, in all recent
cases we can remove the blood contained in the
swelling, by pressure continued over the part. tho'
it will soon return when pressure is taken off;
& a hissing noise may be heard by putting your ear
near the part by the blood returning in the sac when
your finger is removed, but a tumor remains
immoveable. A tumor may form on an artery,
or be situated as to partake of the pulsations, &
in that respect resembles an aneurism, but we
can place the finger behind it so as to remove
it off the artery, & the pulsation ceases, even when
we are unable to raise the tumor from the artery,
we are still able to distinguish it from an an-
eurism, by the particular pulsation, for when a
tumor is situated on an artery we are sensible of the
whole body moving, When the dilitation takes pl-
ace in the thorax, it is known by a palpitation of
the heart, & difficulty of breathing, When the di-
litation of an artery has commenced, the progress
is much slower than we would suppose, because
as the artery dilates, the impetus is divided over
a larger surface, the aneurismal bag as it en-
larges contracts adhesions to the parts around it,
& the internal parts wear away to a great size,

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The ditilation commonly takes place on that side nearest to the heart, or on that in which the impetus is greatest, tho sometimes they are equally dilated. The pressure they occasion frequently occasion the absorbtion of the coagulae, or perhaps of a portion of the surrounding parts. I have seen a portion of the ribs absorbed by it. In this manner it goes on till it comes at the skin, when it bursts & the patient dies by a sudden gush of blood. In an aneurismal sac there will be a number of laminae or coagula formed the general indication in the treatment of aneurisms is, to lessen the quantity of blood in the trunk of the artery, rest & low diet are also necessary. Bandages have been applied & have been said to have performed cures. —

I shall speak chiefly of the popliteal aneurism. at first there is no pain only a pulsatory tumor, which enlarges till it produces pain. by putting the large nerves on the stretch. The surest way of curing it is to tie up the artery. The mode of performing this operation some years ago, was to make an incision into the aneurismal sac, while the Tourniquet was screwed tight on the upper part of the thigh, & after discharging the blood to tie up the artery just above the sac. But this is frequently unsafe on account of the diseased state of the artery, which would be likely to burst at the place where it is tied. To remedy this Mr Hunter proposed to take up the artery about half way between the knee, &

& anterior spinous muscle Ilii, as well as to avoid the hemorhage, which frequently occurs from the diseased & ossified artery, which would not allow the sides to unite, & the limb will be nourished by the anastomozing branches, it will sometimes happen however, that they are not sufficient, for this purpose & mortification ensues. This I suppose is not owing to any want of sufficiency, in the size or number of the anastomosing branches, but to the tenseness or swelling obstructing the circulation. I saw one case of this kind which I suppose was owing to this cause —

In proceding to perform the Operation, first fix a tourniquet on the upper part of the thigh, but so as to allow the artery to pulsate, then make the incision about 4 inches in length, longitudinally, in the course of the fibers, down to the sartorious muscle & dissect along the lower edge of it. — It is necessary to pay particular attention to this, for if you get above this muscle you may get down to the bone & not find the artery — After dissecting thro' the skin & cellular substance, feel with your finger for the pulsation of the artery, it is best to use the handle of the knife to expose the artery, for as there is a great number of anastimozing branches, they would probably be wounded by the sharp edge of the scalpel. Then is a thin facia before you come to the artery through which you must scratch with the point of the knife, a little to one side of the artery, to avoid wounding it. after the artery is brought into view, it may be taken up by means of a silver needle

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or as Mr Abernethy advises by paping a couple of ligatures around it at about ½ an inch from each other, & then separate the artery between the ligatures, by which means he says the ligatures come away sooner, The artery is divided to take off the tension, I have seen the ends recede 3/4 of an inch from each other when divided. In what ever way it is performed, the ends of the ligatures are to be brought outside of the wound, & a pledget applied so as to press the bottom of the wound close together, that the outside of it may not heal too soon, & thereby form an abscess, I have seen an abscess from this cause extend from the knee to the anterior spinous process ilii.

The aneurismal tumor after this treatment disappears most frequently, sometimes however this is not the case, & the tumor suppurates, when this is the case if the tumor does not open of itself, by an ulcerative process, it should be opened by an incision, if this is neglected, very serious consequences may occur, I once knew an abscess produced by it on the knee joint & the patient died, When the artery bursts & allows the blood to flow into the cellular substance, the pulsation may be perceived at first, but the blood stagnating there soon coagulates, & the swelling & tension prevent its being felt, & then it is impossible to say whether it is an abscess or aneurism — When this is the case we should apply a tourniquet & make a puncture into the tumor & if it be an aneurism, it must be tied up, when the tension is great, part of the coagula should be scooped out to relieve the ten-

tension. In 8 or 10 days the tumor will have
separated & the extravasated blood come away. If
on puncturing, the tumor proves to be an abscess,
the matter is allowed to flow out. ——

There are two kinds of False aneurisms, both of
which occur from wounds of the artery, one occurs
from bleeding, in consequence of the lancet
puncturing thro' the vein, into the cavity of the
artery, & letting the blood flow from the artery
into the vein, & forms what is called varicose aneu-
rism. It may be known by a thrilling sensation,
which is easily distinguished; a hissing noise may
be heard by applying the ear near the orifice. Some-
times the two orifices do not exactly correspond with
each other, & the blood escapes into the cellular
membrane, instead of the vein, & forms a tendi-
nous pouch, communicating with both the
artery & vein, causing great pain, & if an opera-
tion is not performed, the skin grows tense &
bursts, or sloughs away, and bleeds profusely, &
exposing the patient to great danger. ——

The varicose aneurism is mostly free from dang-
er, & therefore an operation is seldom necessary,
tho' some of its modifications may require it. The
only inconvenience arising from it is, a little
deformity, caused by the dilatation of a vein at
the place, but when blood escapes into the cellu-
lar substance, an operation becomes necessary, & the
artery & vein should be both secured above & below the sac.

The **Fistula in Ano** is a cavernous ulcer, situa-
ted in the vicinity of the anus. It frequently con-
sists of one, two, or more cells, & is caused by inflam-
mation, if the parts are greatly inflammed, & violent
tumefaction takes place, it produces bearing down
pains

pains & not unprequently a suppression of
urine. when it arives at so great a height it
generally terminates in suppuration, forming an
abscess & making an opening, either externally
or into the rectum; or both. If it terminates ex-
ternally only it is called an incomplete fistula, but
if the communication terminate, bothe external
& internal it is a complete fistula, & occult or
blind if it terminate in the rectum only. To
examine the state of the parts well, the patient sho-
uld lean over a table & the surgeon having his fin-
ger well oiled, should introduce it into the rec-
tum, & insert a probe into the abscess: if he can
feel the point of the probe the fistula is complete,
but he will not be able to feel the point if it
be incomplete, sometimes the abscess is small
resembling a boil, & is easily cured: sometimes the
sides of the rectum is detached from the buttocks,
to a very great extent using even to the brim of
the pelvis. The causes of these abscesses are such
as occasion inflammation in any other part of
the body. We should examine very carefully,
in all cases of pain in the region of the anus,
to discover whether it originate from piles: & if
it does not, remedies should be used to prevent
suppuration. — When we are consulted by a pa-
tient, concerning pain, situated in the regio ani, we
should however disagreeable it may be, always
examine into the nature of the complaint. —
When inflammation & swelling are found,
our first endeavour should be to prevent suppu-
ration, VI blood should be drawn according to cir-
cumstances, purging, leeches, bread & milk poul-

tices

tics &c should be employed. These remedies are
generally sufficient to remove strangury, when not,
the warm bath should be tried. sometimes these rem-
edies fail. & the tumor increases to such a size as
to occasion a total suppression of urine, a catheter
should be introduced for the relief of the patient,
which may be left in for a considerable length of
time without any bad consequences resulting
from it. The catheter should be made of such
elastic, which can adapt itself to the shape of the
part, & will be worn with much more ease than
a silver one. Sometimes inflammation comes on
in the bottom or buttocks with a disposition to gan-
grene, I would advise you to read Pott on this sub-
ject: tho' from the succes I have had in such cases,
I would advise you apply them under similar
circumstances. If the surgeon be called in early
he may generally resolve the inflammation, but
unfortunately we seldom see the cases till
suppuration has commenced, when an operation
is necessary for the cure ——— In all cases
where there is a collection of matter we should
make an opening in the most dependent part,
& not wait for it to open naturally; & we should
join the antiphlogistic regimen, till inflamm-
ation subsides. I shall proceed to mention the
circumstances which render it difficult to perform
a cure 1st when the fistula is complete, the
formation of pus keeps its sides distended, & pre-
vents its healing. 2 next to this the ulceration of
its sides, if the orifice is small so that the mat-
ter cannot readily flow out it collects in the
cavity. & the granulations come in contact ——
3rd The suppurating cavity is prevented from

heal

healing by the external orifice closing too soon, & here the patient thinks himself getting well. but his hopes are soon disappointed, for the matter has to force its way out again, & to make a new opening ——

3rd When the fistula is complete faces pass into the opening & are forced out at the external orifice when we go to stool. When occasn the matter makes its way into the rectum, will be discharged in that way, but frequently will be obstructed by faces, tho' in most cases the opening is obliquely downwards & when the patient goes to stool, the faces will close up the orifice. but I have seen cases where the orifice opened upwards into the rectum, distending it very much causing great distress to the patient

4th When nature is unequal to a cure without the assistance of a surgeon, as 1st when the cavity is on one side of the sphincter, & the patient goes to stool, the contraction will draw the detached side from its natural situation, destroying all the newly formed granulations, & preventing its cure. 2nd While the patient goes to stool, the gut somewhat protrudes, & any adhesions that may have taken place in its contracted state are destroyed. It is to this that the small portion of blood is owing, which appears after stool. 5th When owing to any cause, the healing of the fistula has been prevented some time, the parts become callous, as has already been explained.

6th The practice of filling the abscess with some substances called by some, dressing to the bottom. —

7th When the extent of the fistula is carried a considerable distance into the pelvis, & even to the ant of the best surgeon is often foiled. ——

3th

8th The general health of the patient: this should be attended to, as it will materially effect cure.

The operation for Fistula Ano, consists in dividing the sphincter & attached gut: because being cut prevents its acting so as to injure the granulations & the faeces can readily pass out, without wounding the gut. For the particular manner of performing this operation, I would advise you to read Bott. My object has been to shew the principles on which the healing is effected.—

Altho' I shall make some remarks on the mode of operating ——. When the fistula is complete, the patient is to lean over a table, when the surgeon, after oiling his finger, is to introduce in ano, then introduce a bistouri through the fistulous cavity, till it comes in contact with the finger, thro' the aperture; draw away the finger & bistouri together, & the bistouri divides all the parts betweeen the upper opening, & the external opening, & the external end of the rectum. The patient will feel considerable pain in the introduction of the bistouri from the edge of the bistouri cutting as it is inverted, to remedy this I have a silver cap that goes on the point of the bistouri, & extends along one side of the handle, being a little wider than the blade, which secures the edge; when the bistouri is introduced, by pushing a little knob at the end of the cap, it falls off, leaving the edge exposed. Another method, when a silver cap is not at hand is to place a piece of waxed linnen on the edge; this should be long enough to reach to the end of the handle, so that when the bistouri is introduced we can draw away the linnen & divide the parts. This mode answers extremely well—

some

Sometimes the opening into the rectum is so low down; that we can pass a sonde, from the abscess into the rectum, & out at the anus; in this case the parts may be divided by a scalpel, but when the fistula is so high up, that to divide the parts with a bistouri might endanger a hemorrhage, we should pass a ligature thro' it, bring it out at the anus & tie it; tho' not so tight, as to occasion great pain. By this we prevent hemorrhage, & the part within the ligature will be divided by an ulcerative process absorption, the wound caused by the ligature has cut through the wound, will be nearly healed, tho it does not always heal so fast.

The Hare Lip, derives its name from its resemblance to the hares lip. It mostly takes place in the upper lip, & is but one slit, tho' there is sometimes two. They most frequently exist at birth, tho' they sometimes exist from accident. When they occur at birth, the suture uniting the maxillary bone, at times not well consolidated owing to the want of the gentle pressure of the lip, in such cases the lips should be immediately united. In proceeding to do this, we should have a pair of sharp, strong scissors, & cut a small piece off from each lip, taking care to cut out the upper angle, or else the lip however well united below, will not heal above. after this is done, the edges are drawn equally together, & secured with two silver pins having steel points into which the silver pins can pass, by the twisted suture, always taking off the points of the pins after they are introduced to avoid hurting the patient. this is especially necessary in children. The pins may be withdrawn in about 4 days, which can be

done

done by taking hold of the end with a pair of nippers, as the pins will stick pretty fast. — lay your finger on the thread, when you draw the pins, to prevent drawing it off. The thread may be left one or two days longer, by which time it will be perfectly well. The thread will be agglutinated to the part by the mucus of the nose.

Strictures in the Urethra

By stricture, is meant the diminution of any canal, at a particular part: when this occurs in the urethra it is most frequently at the bulb, tho' they sometimes happen in the middle, or beyond the bulb at the membranous part tho' rarely. They are of two kinds, spasmodic & permanent, tho' these are often combined. The first effect of a stricture in the urethra, is to lessen the flow of urine, & the patient often does not suspect any disease until in voiding urine, he finds it dropping drop by drop, he will now have frequent trials, to make water, passing a little at a time, & this not without considerable straining. a gleet generally attends it, owing to the straining, & irritation there is in passing urine. The parts between the stricture & bladder become very much dilated, & the other parts diminished, resembling in its effects a string tied round the penis. The stricture commonly runs regularly round the urethra, but not always, for it is sometimes found at one side only. — Where ever spasms supervene in such a stricture, the passage is completely closed. The causes are cold weather, cold feet, intemperate use of strong drink. I had

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a patient in whoom it was caused by too long retentention of semen in coitu. — The great difficulty there is in ascertaining the cause, is the reason that the suppression is not generally treated with succes: hues is sometimes a cause of it —

Treatment. The permanent structure may generally be dilated by a bougie: much depends on the preparation of bougies, & upon their make. I generally use waxed linnen. Pieces of fine linnen cut to a point, dipped in pure wax, & rolled smoothly up. make the best bougies. the point must be small: (the point must) but the body sufficiently stiff to bear the necesary force of introduction. the bougie may be introduced as far as it will enter & left for some time with its point in contact with the stricture, till the irritation has subsided. & then pres it gently forward: by which means the stricture will frequently be overcome. When the bougie is introduced. the patient often faints, & a cold sweat will break out over him. this seldom happens after the third introduction of the bougie. when the stricture is small, it may then be dilated. At times. cases occur in which the structured part is so close, as not to admit the point of the bougie: in such cases we sometimes succeed by letting the patient pass a bougie down to the stricture, & pres the point of it on the stricture, for the space of an hour or two, every day. Sometimes the canal is thrown to one side, making the passage irregular: when this occurs, the point of the bougie is to be bent to one side & then introduced. —

Sometimes the pressure & irritation of the urine ac-

accumulated in the parts occasions ulceration 425
of some of the parts behind the stricture, form-
in an artificial opening called fistula in perineo.
In such cases there are two modes of relief, by
the caustic, or lancet. Caustic was first used by Mr.
Hunter, & afterwards by Mr Hawne. I have used it
myself in several cases with very good effects. The
caustic is rolled up in the end of a bougie, & tied
by a very fine thread: the end of the caustic may
project a little. To prevent the caustic burning
the canal, before it reaches the stricture, a small
cap of waxed linnen: secured to a fine thread and
fixed to the end of it, answers very well: when
the bougie is passed down to the stricture, the cap
may be withdrawn by means of the thread. ——

When the stricture is at, or before the bulb
of the urethra, it may be divided by a lancet, depen-
ded with a silver canula. The distension of the
urethra behind the stricture, makes it almost
impossible to divide any other than the stricture
part. When the canula is introduced to the stricture,
the lancet may be pushed through the stricture
& thus divide it, but the circumstance of the cur-
vature makes it difficult to divide it from the
from the back, & the curved canula answers very well
in some such cases. When the stricture is dilated,
a bougie or catheter should be introduced, & kept
in several days: when, if there be a fistula in
perineo, it will soon heal. —

In spasmodic strictures, to treat it by caustic is
hurtful. —

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The warm bath, or a small piece of tobacco, or the end of a bougie introduced, to be in contact with the structure, will frequently relieve, an anodyne glyster, venesection, liquid laudanum, or emetics, have proved serviceable. ——

Cancerous Breasts

When tumors are found in the breasts, if they do not yield to the antiphlogistic regimen, with the use of mercury, it is best to examine them early, there are two modes of extracting them, by Caustic, & by the knife, The last method is the best, as we are able to distinguish, between the diseased & sound parts: this may be done by one incision made directly over the breast, if the integuments are sound, but if ulceration, or induration, of any part of the skin have taken place, it will be necessary, to make two incisions, so that the diseased part may be included between them, & removed. If the glands in the axilla are tumefied, we must continue the incision the course of the lymphatics, to the affected gland or glands, & remove the indurated glands & lymphatics with the tumor, it is often difficult to get at the glands from their close situation in the axilla but the weight of the tumor, if it be large, will draw them down, so that you will be able to get your finger above to tie a ligature round, which should always be done before they are separated, on account of the many vessels of that part. When the tumor is taken out, the edges of the wound are to be brought in contact & secured by adhesive plaister, that they may unite, by the first intention. ——

Cancerous Breasts

The first indication of the disease is that the child (it generally occurs in children of about 4 years old). or patients refuse to step, It is mostly attended with pain from the comencement, but this does not always attend. & when it is a concomitant, it is often always deluzive occuring in the knee & not in the hip joint. Pain when an attendant, is not always a constant, but comes on at intervals, & continues an hour or two & then ceases, it is often worst at night. After the disease has existed for some time, a swelling & enlargement of the hip, & adjacent, soft parts takes place — At this period touching or resting upon the part gives pain; if the patient stands up he always rests on the sound side, bearing no weight on the diseased limb, but bends the knee of the diseased side forwards, & the toes only, rest on the floor. — This disease of the hipjoint is often mistaken for a disease of the spine; it may be distinguished from a caries of the spine, by laying the patient on his back, on a table, if only the hip be diseased, you can easily shaighten & curve the spine. —

Causes. It frequently comes on without any apparent cause, but it frequently occurs from blows on the hip, & from jumping. — After some time, as the disease, progresses, we frequently find the limb, considerably shortened: This takes place in consequence of the bone being pushed out of the acetabulum, by tumors formed in it, & the head of the bone is drawn up on the dorsum ilii, by the action of the muscles; this circumstance of luxation, by disease in the joint, has given rise to the term of "Spontaneous luxation" In common the luxation is upwards &

back

backward, but sometimes it takes place downward & forward, from the force of gravity & relaxation of the muscles. Sooner or later the parts separate & the bones are found to be carious. Suppuration does not however always take place, for it has happened that a new acetabulum has formed, which would allow of some motion of the limb. When suppuration has taken place it is attended with more or less pain, & the matter which is formed is discharged through 1 or more openings. — In this state the patient frequently loses his appetite, he becomes much emaciated, has night sweats & hectic fever next ensues: in the progress of the disease the thigh dwindles very much, becoming much smaller than natural. In some cases the shortening of the limb does not take place, for the head of the bone becomes diseased as well as the acetabulum, & forms an anchylosis with the socket. Sometimes both the acetabulum & head of the bone are entirely removed. & then if you examine you can pass a probe thro' into the pelvis. —

Treatment. Unfortunately we are not often called in, in the forming stage of the disease, I say unfortunately, for if we were called in early, the disease might sometimes be counteracted. — When called to a patient with these symptoms, just bled & then purge every other day for 2 or 3 months. The best remedy I have found for this purpose, is jalap, & cream of tartar, it should be given so as to produce 4 or 5 evacuations daily. You would suppose that children could not bear such severe regimen, but experience proves that they can very well. — — It is

It is always necessary to prevent all motion, the patient should be put on a vegetable diet, after this a warm bath may be used. I think it is more beneficial when impregnated with muriate of soda or some neutral salt. I have used salt brine once or twice a week. — I have mentioned the tumefaction of the hip because it is from this circumstance that the existance of the disease is ascertained. — The application of caustics on the hip is frequently advised, but I have tried them in several cases, & have found them of no efficacy. — The application of leeches to the part is often of service —

Of The Venerial Disease

This is a disease which occurs very frequently in the practice of a physician. It is produced by a poison formed in the Genital Organs, & is commonly communicated by the connection of the sexes.

It is not necessary (as some suppose) that the skin should be ruptured in order to produce this disease —

Its primary symptoms are Gonorhœa, & chancre. to which some add bubo. It is extremely doubtful whether Gonorhœa produces chancre, a chancre Gonorhœa. it is certain that gonorhœa often runs its course without producing chancre. — Many experiments have been made by different persons, in order to ascertain this point, but they differ very much in their personal opinions — Mr Hunter in his experiments which he has related, above

xperts, that gonorhœal matter produces both chancre & confirmed syphilis:— Dr Thurston says, that in the experiments which he made with gonorhœal matter, neither gonorhœa nor chancre was produced, the experiment which he performed was by dipping lint in gonorhœal matter, & introducing it into the urethra, & it had no effect. Now his experiments prove too much, for it ought to have at least produced gonorhœa; it is therefore certain that the matter he made use of was too much diluted.—

It is supposed by some, that mercury is never necessary in order to cure gonorhœa, but it is in chancre & lues venerea, this is not always the case; Gonorhœa sometimes requires mercury, especially if it be attended with buboes.—

Gonorhœal matter is only a modification of the venereal virus, it exists in the urethra as a grade of lues venerea, & I believe whether there be ulceration or not, Gonorhœa is Syphilis of a mild grade

of Gonorrhœa

Gonorhœa is a preternatural discharge from the genital organs: it is seated in the urethra in men, & in the vagina in women, it comes on at various intervals after the disease is contracted, from a few hours to 7 or 8 days. It most commonly appears from 3 to 6 days after being infected. it sometimes does not

not appear for 6, 7 & even 9 weeks after having contracted it. — Sometimes it appears without any premanitory symptoms, but generally it is preceded by inflammation. — It was the ancient opinion that the discharge from the urethra was owing to ulcers formed in it: this opinion has of late years been denied, & it is now clearly ascertained that it often exists without any ulcers being formed. It is sometimes difficult to distinguish gonorrhœa from other discharges which sometimes affect those parts. Thus gout sometimes attacks the urethra & produces a discharge from it. ——

The premonitory symptoms of this disease are a severe itching in the urethra & glans penis, redness at the orifice, inflammation soon comes on, a discharge of pus takes place, (Sometimes this discharge is the first symptom,) pain of a pricking or scalding nature after discharging the urine, a sense of fulness or tightness along the urethra: a frequent desire to make water, the urethra becomes contracted, & the urine is discharged in a very small stream, violent erections & chordee sometimes take place the penis becomes of a red & shining appearance, ulceration sometimes takes place, & pertutous ulcers are formed, sometimes opening into the urethra, & sometimes into the corpus cavernosum; the discharge is of a white or yellowish col-

colour sometimes very thin & sometimes purulent "blood is mixed with it the testicle sometimes becomes very sore & tender: the glands in the groin sometimes becomes inflamed from sympathy

Inflammation sometimes affects the prepuce. It is then called Phymosis: when the skin is drawn back over the glans penis & contracted there it is called Paraphymosis.

During the Chordee hemorrhage frequently takes place from the urethra. Inflammation sometimes ends in gangrene. These symptoms are not always combined together, & are not all to be seen in every case. the symptoms in women are much milder, commonly there is only a discharge from the vagina: when the urethra is affected there is a scalding, & a desire of voiding urine very frequently

Of the cure of Gonorrhoea

Those who consult us in this disease, are always extremely anxious for a speedy cure, but we can by no means determine when it will certainly be cured: it is sometimes in our power to cure it in a few days, sometimes it baffles us for months. When the gonorrhoea is seated in the extremety of the urethra, it is generally cured in

8 or 10 days, but when the urethra is deeply affected, & the prostate gland is inflamed, it is very destinate to cure. there are instances of persons contracting this disease, whilst under the cure of mercury in lues venerea, —

The design in promoting a cure is to change the nature of the disease, & prevent their morbid secretion.

The remedies are general & local. In the early stage of the disease, if the inflammatory symptoms run high, the antiphlogistic regimen should be used, active purges of Calomel & jalap, or salts, abstinance from ardent spirits, Vene-Section in every instance necessary, but it is sometimes of very great advantage; to persons of very great advantage, to persons of a very weak constitution, Opium should be given, the depleting remedies should be used sparingly, & sometimes the bark is necessary: — If there be no inflammatory symptoms, the antiphlogistic regimen should not be used: — The remedies are demulcent drinks, they act by cleansing the part, & removing the matter which is formed. they are balm tea, flax-seed tea, barley water, molasses & water &c, little exercise. — Diuretics. in some instances these medicines have performed a complete cure. Nitre & turpentine have been used as diuretics. Balsam Copaiva from 20 to

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30 drops.— Powdered resin mixed in syrup, 143
& 10 grains of it taken 2 or 3 times per diem.

If consulted when recent, you will commonly find the penis red & smooth, & a small swelling at the end of the urethra, ardor urinæ, burning, scalding, & a discharge of pus,

In such cases the membrane of the urethra only is affected, when these symptoms only exist, a purge of Calomel & rhubarb &, salts, abstinence from wines & fermented liquors, & a mild astringent injection performs a cure.—

The following may be used, Sulphs. Zinci. grs viii. Sac: Sat. gr v. Aqua Zviij. to be injected 5 or 6 times a day; very little exercise should be used, if inflammation should supervene, Vene. Sec. & the antiphlogistic regimen should be used, the strength of the injection should be increased if the running continues, & by gradually increasing it, we may at the end of several weeks, make it of bichlor Zj. & sac. Sat. Zj. —— ——

Corrosive Sublimate is sometimes useful, commencing with one grain in 8 ounces of water, seven or 8 times a day.— If inflammation runs high, & the disease extends along the urethra, leeches general Vene. Section: mucilage of gum arabic, milk & warm water or oil warm, is all the injections that can be used. The distress of

making

making water increases as the inflammation extends, If the discharge is very much augmented, violent chordee, If the chordee be very violent, opium should be given at night glysters of opium are very useful an injection of from ℈j. to ℈ij. of Calomel ℥ss. of Gum Arabic, ʒij. of laudanum ʒvj. of Aqua injected 4 or 5 times a day; if it occasions any smarting more water must be added, A Solution of Allum has been used also an infusion of oak galls.— Sulph. Zinci ℈j. Sac. Sat ʒj. Camp. Sub gtt vj. Aqua ℥ viij. is sometimes found useful.

When the bladder sympathises. It is very irritable. glysters are to be used; it is attended with a great deal of pain at its neck, a small discharge of urine & mucus, sometimes causes hectic fever & death. It sometimes causes hectic fever & death. It sometimes is necessary to throw injections into the bladder. barley water answers the purpose very well, a flexible catheter should be introduced through the urethra into the bladder. If the injection has'nt through it. If stictures exist in the urethra bougies should be used.

An occasional symtom attending this disease is swelled testicle called Hernia Humoralis.

This

This generally takes place when the discharge is stopped; a sense of soreness in the testicle, & a heavy dull pain are its premonitory symptoms. The patient should be confined in a recumbent posture if practicable; if not, a suspensory bandage should be used; Vene-section, & purges, leaches to the scrotum, vomits, opium to relieve the pain, should be prescribed. After the swelling is relieved, the epididymus frequently remains indurated for a long time; & sometimes it continues thro' life; frictions with mercury have been found useful to remove it. Owing to sympathy of the parts there is pain often felt in the small of the back & loins, & nausea & vomiting come on. ——

The chordee or painful erections of the penis are relieved by opium; cold water or sugar of lead may be used. Bleeding from the urethra has frequently removed. Rest low diet & purges, balsam of Copaiva, & turpentine are useful. In cases of very large hemorrhage, a large bougie should be introduced, & the prepuce made by a roller —— This disease is not so bad in women as in men. In women the discharge generally comes from the vagina, but sometimes the urethra is affected, & when that is there is also there is a pain, & the bladder is more apt to sym-

pathize

pathize than in men. — The Cure is nearly
the same as in men, & cleanliness is of the utmost
importance. When the disease becomes chronic, very ir-
ritating injections are to be used, such as Cor. Sub. Tinc.
Cantharides &c. When the remedies are successful,
the pain & other symptoms go off gradually, the
discharge decreases, & after a while it subsides ——

Very often, after all the other symptoms go off,
a discharge continues: called, Gleet, which is the
most difficult to cure. Whether Gonorhoea be treat-
ed by general & local remedies it sometimes
terminates in Gleet. It is a preternatural discha-
rge of fluid from the Urethra in men & vagina
in women, without any inflammation; it consists
merely in an increased secretion of the fluids nat-
urally secreted from the parts. The remedies for
it are tonics, such as peruvian bark, moderate di-
et &c. if these fail, stimulants are to be used.
active purges: balsam Copaiva, has been found of
great advantage, Resin 8 or 10 grains two or three
times per diem, & increased to a scruple, turpenti-
ne, sal martes, rubigo ferri, cold bath, salt wa-
ter bath, are useful — The best remedy are Tinc.
Cantharides ℥ss. Aqua ℥ij. a table spoon full
taken three or four times a day. The local reme-
dies are bougies & injections: as Sac. Sat. ℥ss. bit
alb ℈j. Cond. Sub. grs ij. Aqua ℥viij. A solution of
alum

alum &c. is sometimes used. In case of stricture, bougies are to be used, if they do not succeed apply caustics

Of Chancres

Chancres are those ulcers which are formed by the application of venereal matter to the cutis, & is most frequently seated in the genital organs. Persons who have once had a chancre are very easily affected with it afterwards. They do not occur as often as gonorhoea & are generally seated in the glans penis & cutis in men, & the surface of the labia, nymphæ in women. The prænum, prepuce, glans penis, cutis & sometimes scrotum is affected with chancres. It sometimes takes place in 24 hours after coition, & sometimes it is several weeks before it appears. The number of sores are various from one to twenty. It begins generally with an itching, redness, & a simple pomm: without exciting inflammation, & ulceration takes place: when they pomm on the skin, they appear in small pimples, which ulcerate & scabs form. if inflammation takes place, Phymosis & Paraphymosis are symptoms or are produced, the matter is of a greenish colour & fœtid odour, & lough hs sometimes pomm & increase the extent of the sore, & sometimes occasion hemorrhage. — Phymosis, & Paraphymosis, are symptoms of Chancre as well as of Gonorrhœa, & oftener follows chancres than gonorrhœa. Phymosis consists in a thickness & swelling of the pre-

puce

* ~~Dr. Adams says it is in no instance a primary symptom of the cerebral disease~~

prepuce & prevents it being drawn back over the glans. Paraphymosis is when the prepuce is drawn back, swells, & makes a stricture behind the glans.

The Remedies for chancre are, extirpation by caustics & escharotics.— In some cases of chancres excite inflammatory symptoms so much as to require depletion. Caustic is by far the best remedy for the extirpation of chancres; the caustic should be repeated till the ulcer appears red & granulating, & lint spread with simple ointment should be spread over it. When the ulcer is extremely large the lotio septicus should be used. When calomel is to be used it should be mixed with simple cerate, or mercurial ointment, may be used. Injections of one grain of corrosive sublimate, or Calomel & Gum arabic, may be employed; & the penis should be kept up towards the navle. When phymosis or paraphymosis attends it the prepuce should be cut through. Mercury should also be used to prevent lues venerea, even if the disease be ever so slight, & it is probable that a small quantity of mercury only will be necessary. calomel pills of 2 grains each may be taken every 24 hours. but it is sometimes necessary to make frictions on the inside of the thighs, every night with mercurial ointment.— When gangrene commences, hemorrhage also begins, sometimes to an alarming

* Dr Adams says it is in no instance a primary symptom of the venereal disease ——

alarming degree, when this is the case Sep-
tics & blisters are to be used.

When caustics form upon the labia caustics generally cure them. they require the same treatment in women as in men

Venerial Warts are commonly a consequence of chancres. they have no venerial taint & do not require mercury to cure them: they should be removed by tying a string round them. & after they have sloughed off caustics should be applied if necessary

Of Buboes

Buboes are swellings of the lymphatic glands, caused by the application of venereal virus to them. They occur in various situations & wherever lymphatic glands are there buboes may be, they commonly form in consequence of chancres, but sometimes they are the first symptoms of the *discare† Buboes generally form on the side on which the chancre is situated, it generally commences with pain & a small tumor in one of the groins, & unless prevented, ulceration takes place very soon they are first circumscribed & are moveable underneath the skin, but after a short time they become diffused. the colour of the skin is a remarkable florid red. It is a local disease & the constitution is uncontaminated at first.

We should first attempt the cure by resolution, which

*venereal

which is to be effected by V.S. local & general, purges vomits, & mercury, mercurial ointment rubbed on the inside of the thighs, leeches to the tumors, & afterwards tumors & afterwards blisters, cathartics every other day & a very low diet, There are very few instances in which it is necessary to cut very deep in order to open them, for they should generally remain till the skin becomes very thin, caustic & the lancet are the methods for opening them: when the bubboes are very large, the caustic is preferable, but if small the lancet should be used, after the evacuation of the matter, poultices should be applied, if these fail, caustics, mercurial ointment & the mechitate &c. should be employed, If the patient is of a scrophulous habit the following prescription has been found useful, ℞ Hemlock qss ℥ Coroc. Sub Gs viij. made into 64 pills,

For a more particular account I refer you to Adams on morbid poisons: Pearson on the venerial &c

Of Lues Venerea (Stuttly so called)

The different species of this disease, if suffered to go on produces what is called lues venerea, Syphilis or Pox. The parts which are first attacked are the skin, tonsils, nose, mouth, throat, pauces &

sometimes the tongue, In the last stage it affects the periosteum, tendons & facia of the bones, —

It commences with blotches on the skin, & ulcers in the throat, the tonsils are the usual seat of the inflammation, it is sometimes attended with pains in the head, langour & fever, It is to be cured only by immediate recourse to mercury, by fuctions & by the blue pill or calomel taken into the stomach: fumigations of mercury, nitric acid & gum Arabic ℥ss. Water ℥ vj. — a table spoonfull twice a day, Caustic is sometimes necessary —

Nodes, occur upon all the bones of the body, but most commonly on those which are thinly covered, as the forehead, tibia, ulna, radius, &c. They are hard circumscribed tumors, arising out of bones, tendons & ligaments are much less liable to this disease. — —

Opthalmia has in some instances been excited by syphilis, & sometimes by gonorhœal matter applied to the eye, It is to be cured by salivation & fuctions. — For a further account I refer you to Abernethy & Pearson, —

Suppression of Urine

In this disease the patient is unable to discharge the urine, & is attacked with various distressing symptoms — It arises either from a tumor near the neck of the bladder, or abscess near the anus — —

The

The presence of hemorrhoidal tumors — a stone in the bladder getting into its neck — a spasmodic contraction at the neck of the bladder, or any part of the urethra, tumefaction of the prostrate gland &c — If it arise from calculi in the bladder Mr Hunters elastic forceps or a bent probe, should be employed. If from spasms, the bougie must be used. If these fail copious bene. Section, should be prescribed, or a glyster made with a teaspoon full of opium & an ounce of thin starch — — Notwithstanding these means it is sometimes necessary to puncture the bladder, there are 3 places in which it may be done 1st above the pubes 2nd in the rectum: 3 in the perinaeum — 1st above the pubes — when the bladder is felt above the brim of the pelvis, the parts are to be shaved, a small incision is then to be made & the trochar pushed into the bladder. — —

2nd When in the rectum the finger should be passed into the rectum, to about an inch above the prostrate gland, it will serve as a director for the curved trochar, which is then to be passed up along the side of the finger & pushed into the bladder —

3rd When in the perinaeum, an incision is to be made between the Raphe Scroti, & accelera-

tores

tores perinæ & levatores penis. The finger is then to be introduced into the rectum, & the trochar is to be passed up along side of the prostate gland into the bladder. — — —

Finis.

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PHYSICK

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LECTURE NOTES BY FITHIAN